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Sumada et al.

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(54) **MOTORCYCLE LAMP FOR VEHICLE**

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F21V 33/00 (2006.01)

(52) **U.S. Cl.**
USPC **362/473**; 362/549

(58) **Field of Classification Search** 362/473, 362/549, 217.12, 217.13; 180/219; 340/479
See application file for complete search history.

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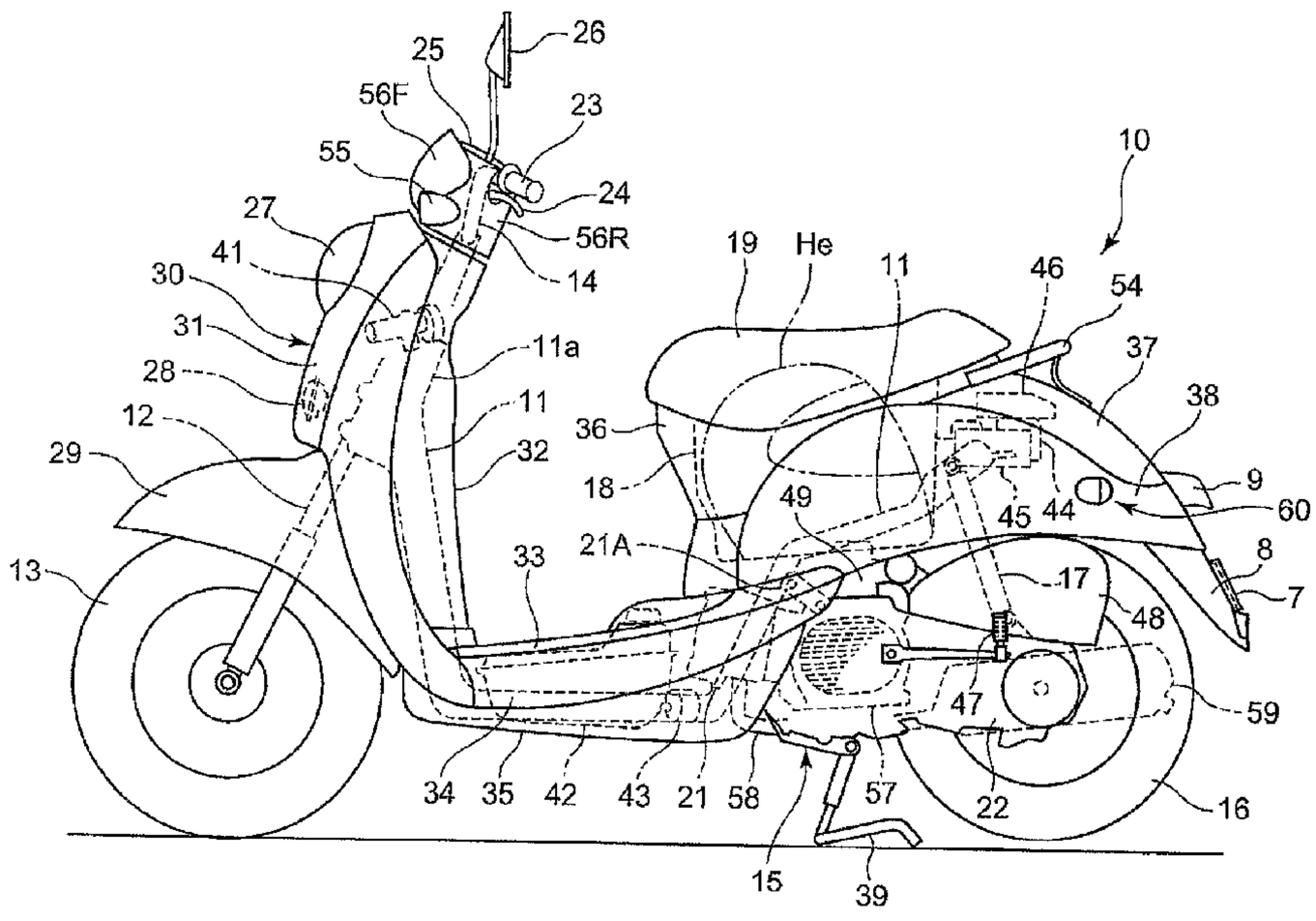
(57) **ABSTRACT**

A motorcycle includes a seat, side covers covering the periphery of the lower side of the seat and formed in curved shapes to gradually decrease in width toward the rear side of the vehicle. Rear blinkers mounted to left and right portions in the vehicle width direction of the side covers. Each of the rear blinkers includes a base member mounted to the side cover, a bulb and a lens covering the bulb. The left and right rear blinkers are disposed at recesses provided in the side covers. Each of the left and right rear blinkers is mounted to the side cover in such a manner that the lens is substantially entirely exposed from the recess to not overlap with a curved surface of the side cover in plan sectional view as viewed from the upper side of the vehicle, the section containing the optical axis of the bulb.

11 Claims, 11 Drawing Sheets



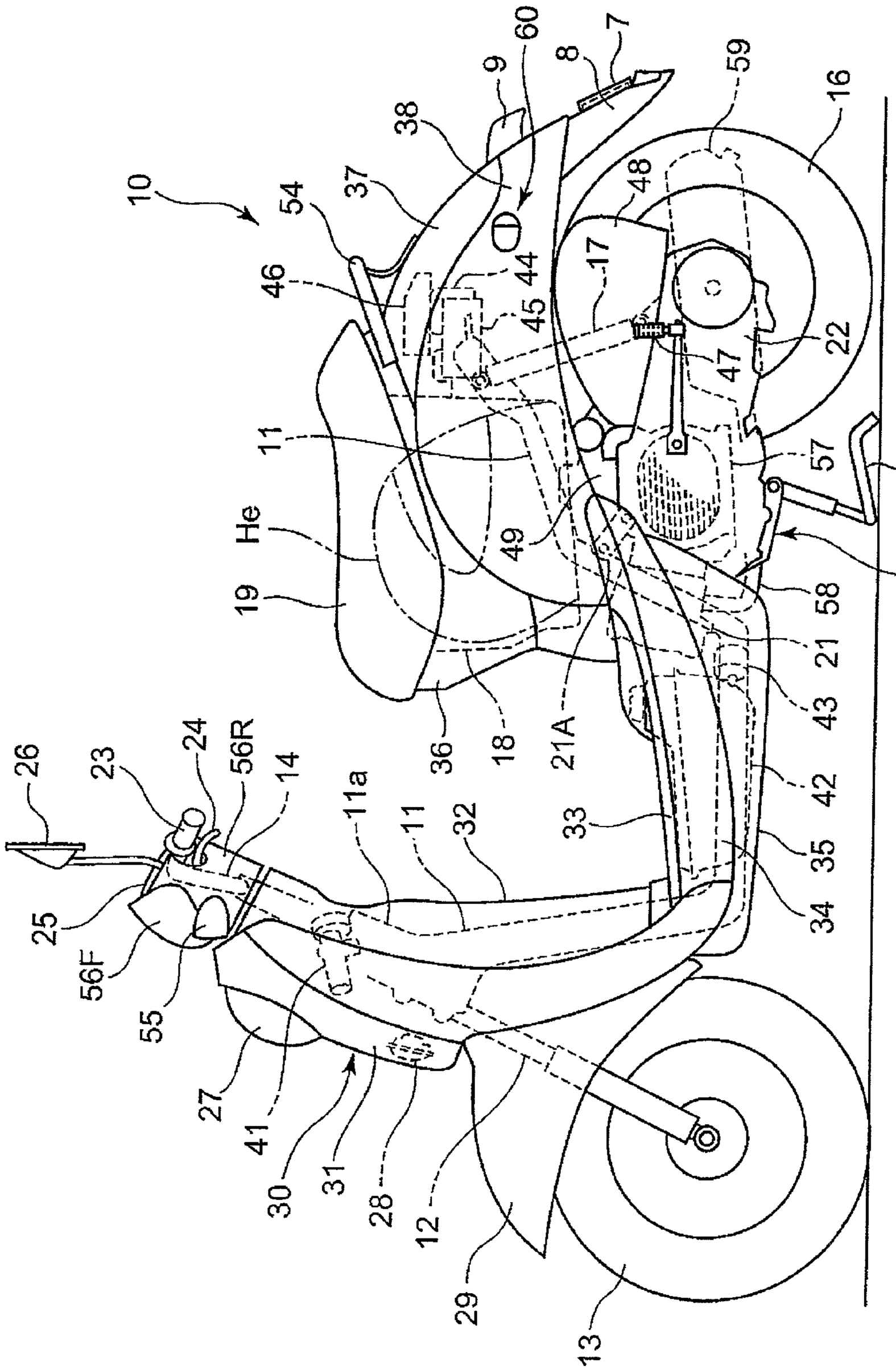

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FIG. 1

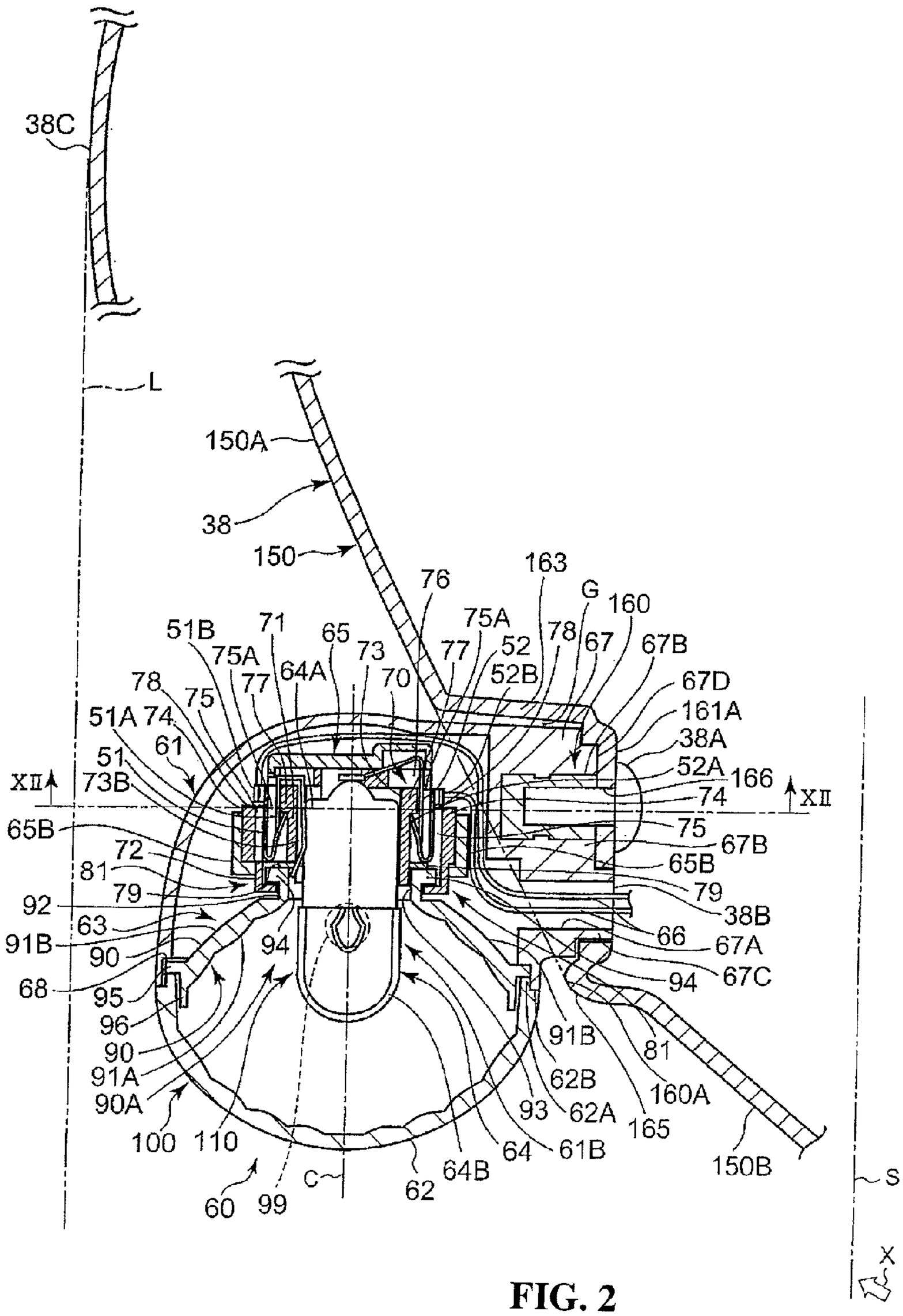
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FIG. 2

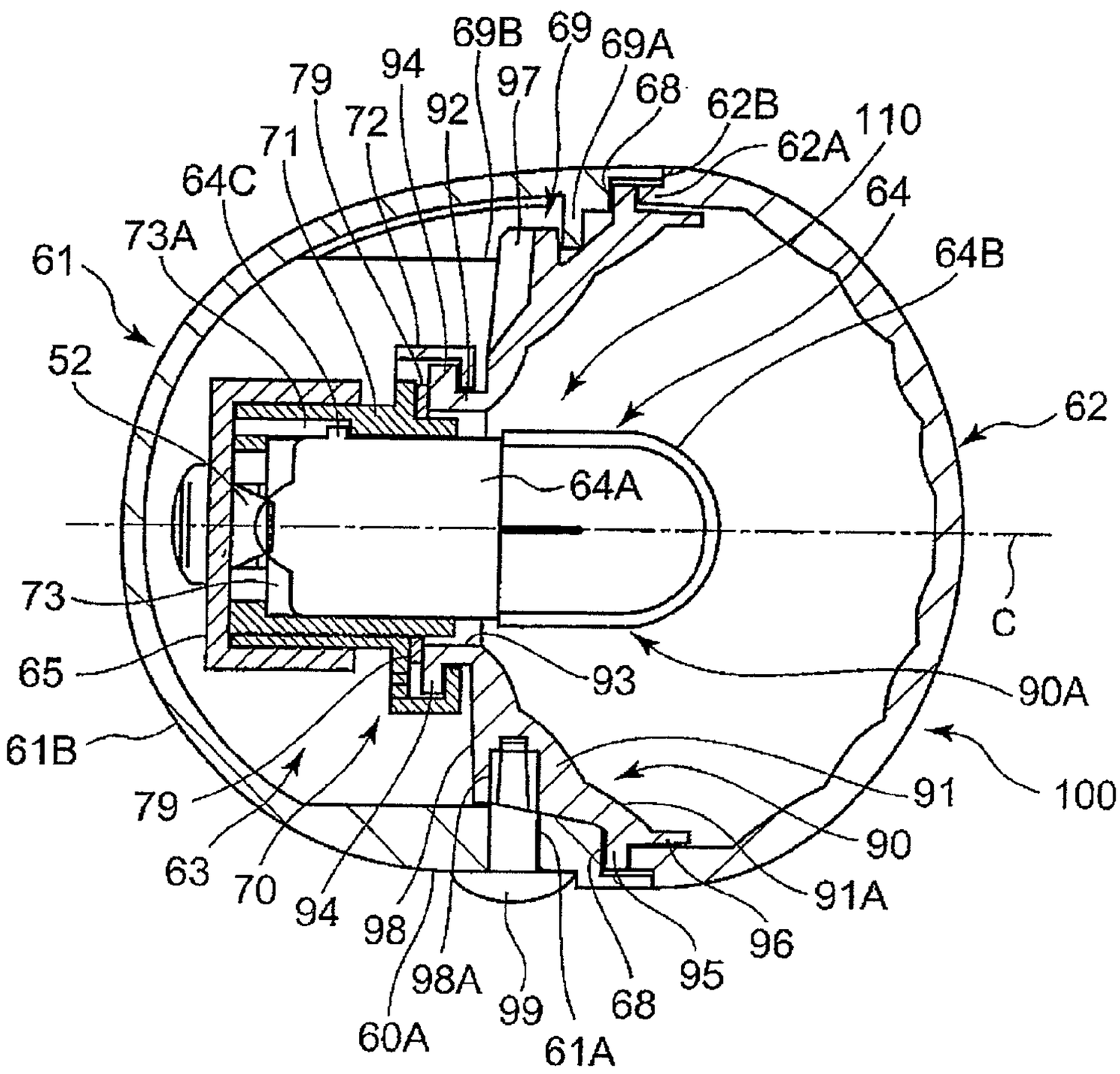
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FIG. 3

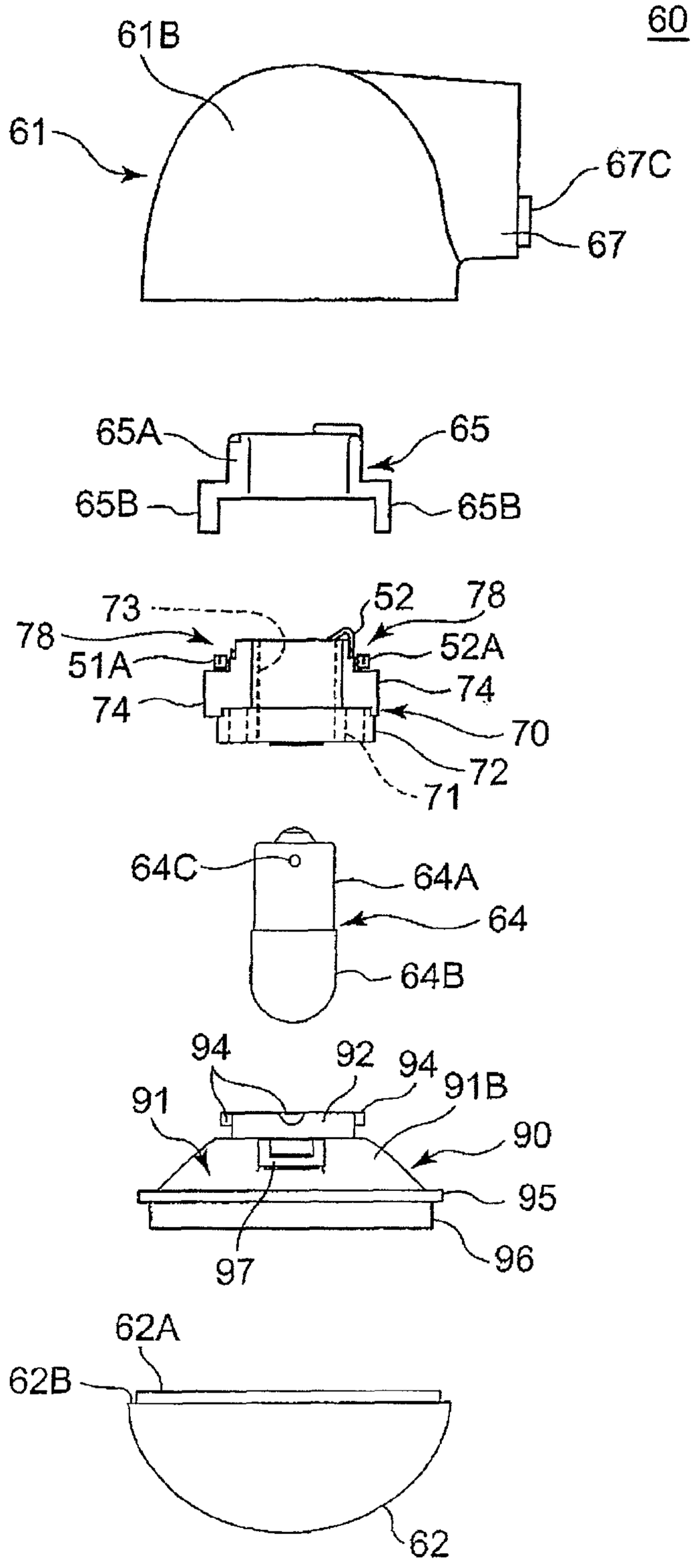
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FIG. 4

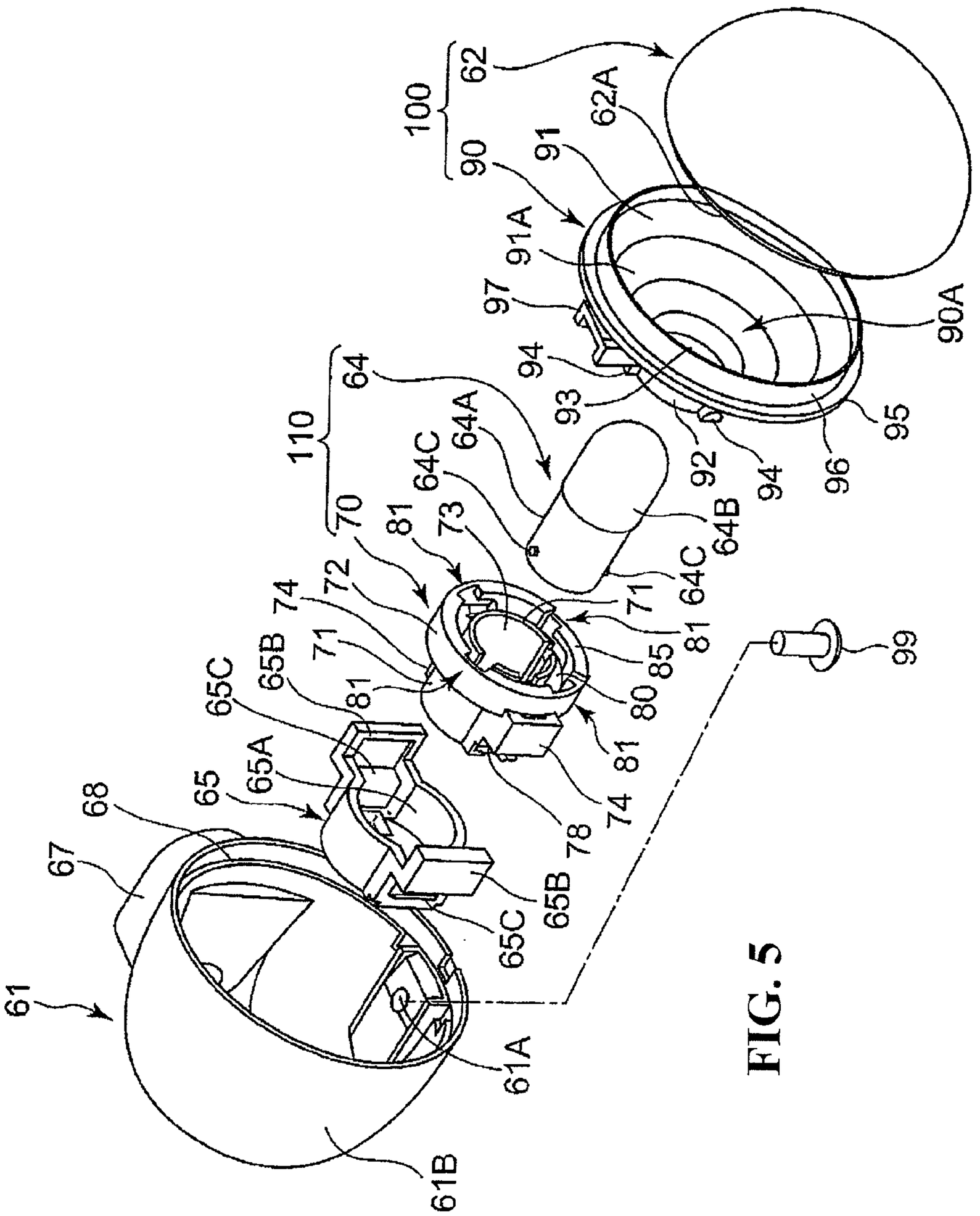
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FIG. 5

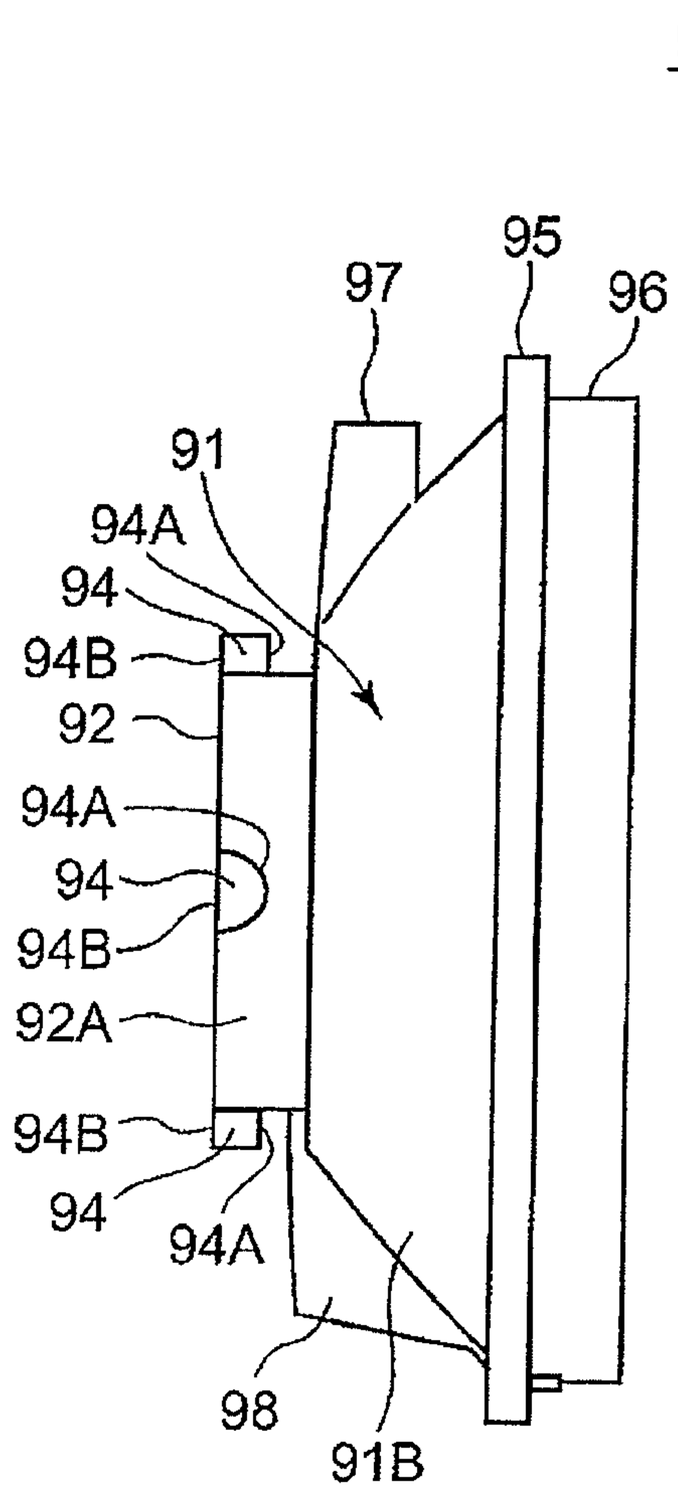

FIG. 6

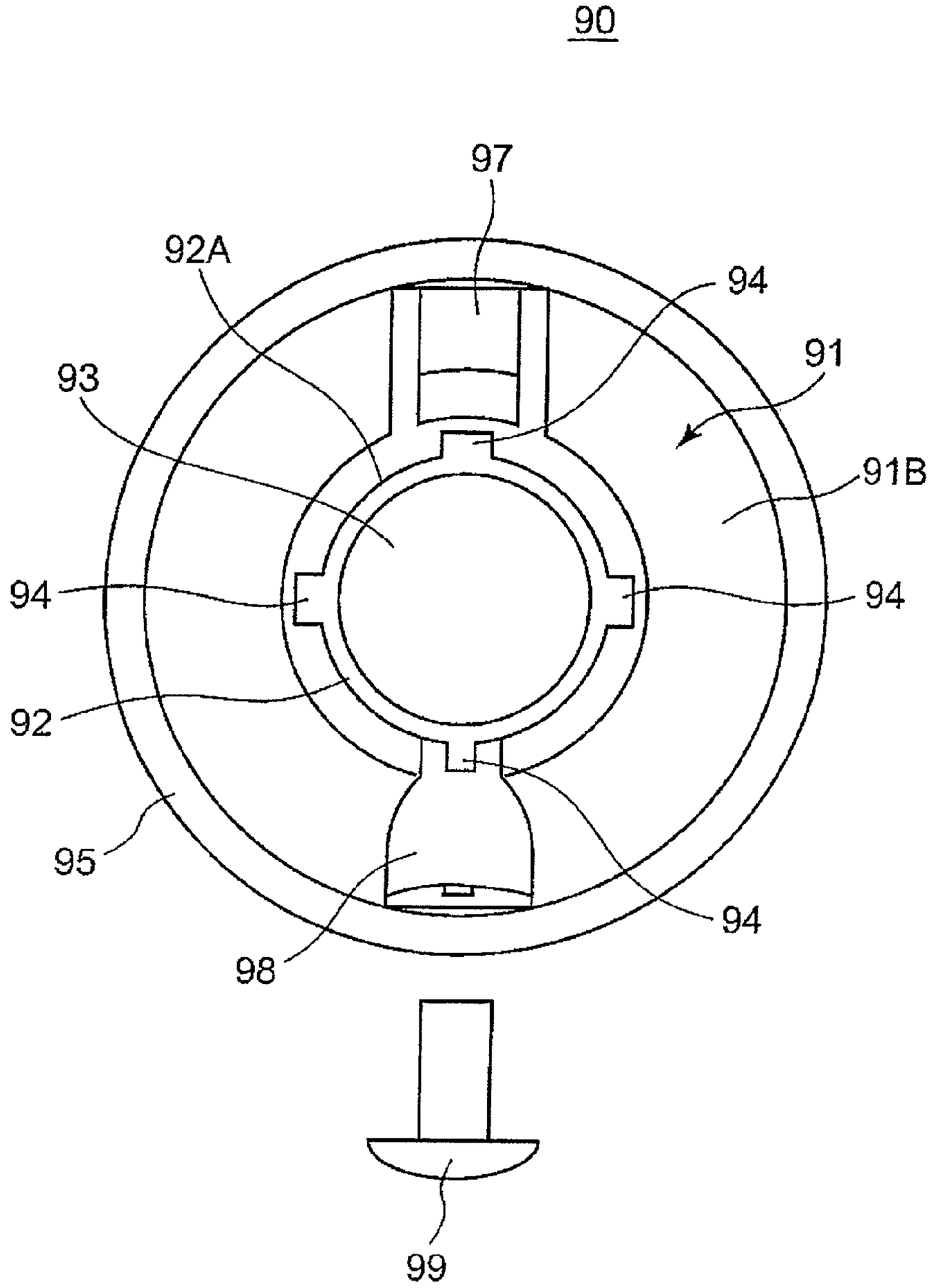

FIG. 7

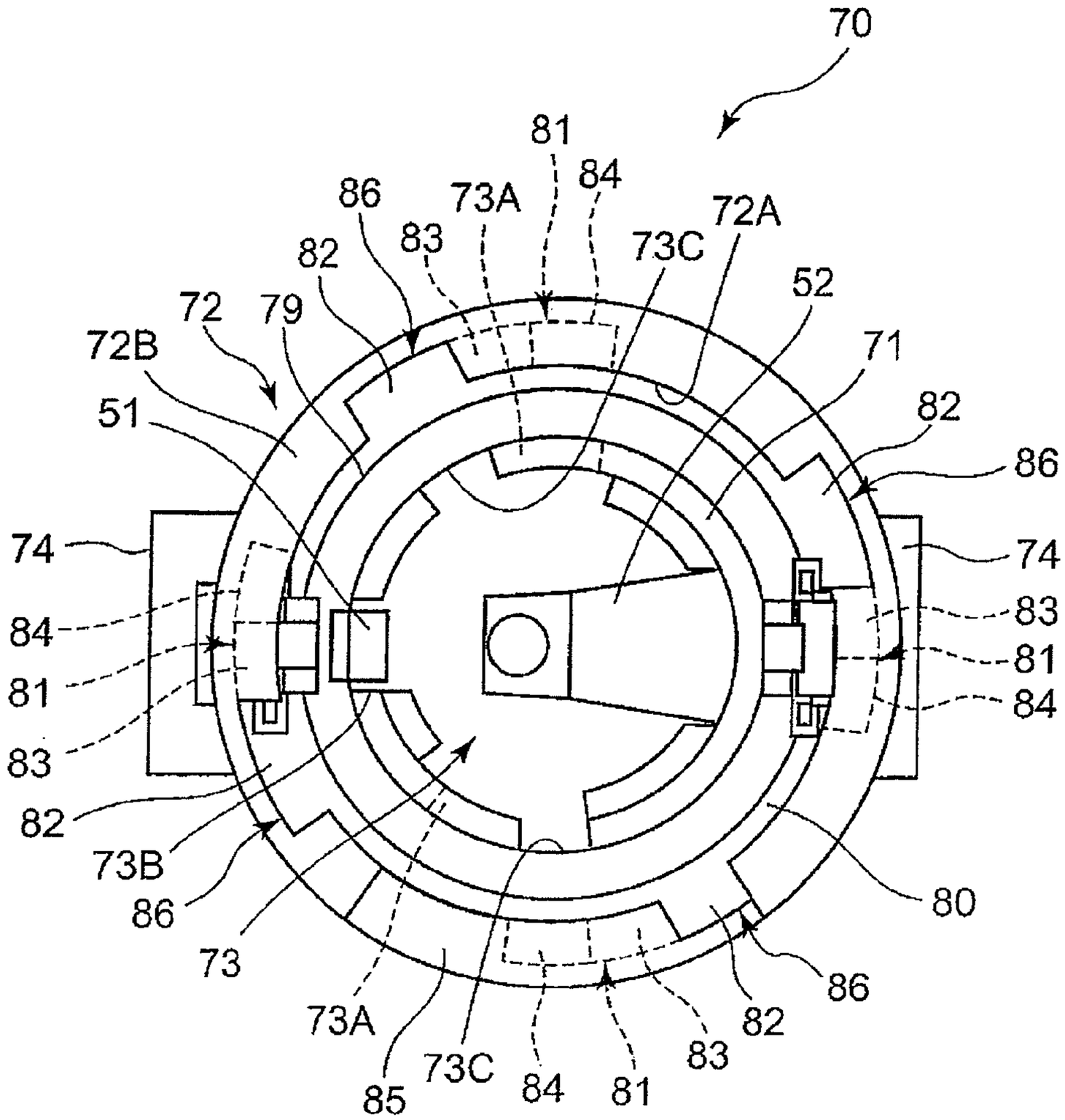
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FIG. 8

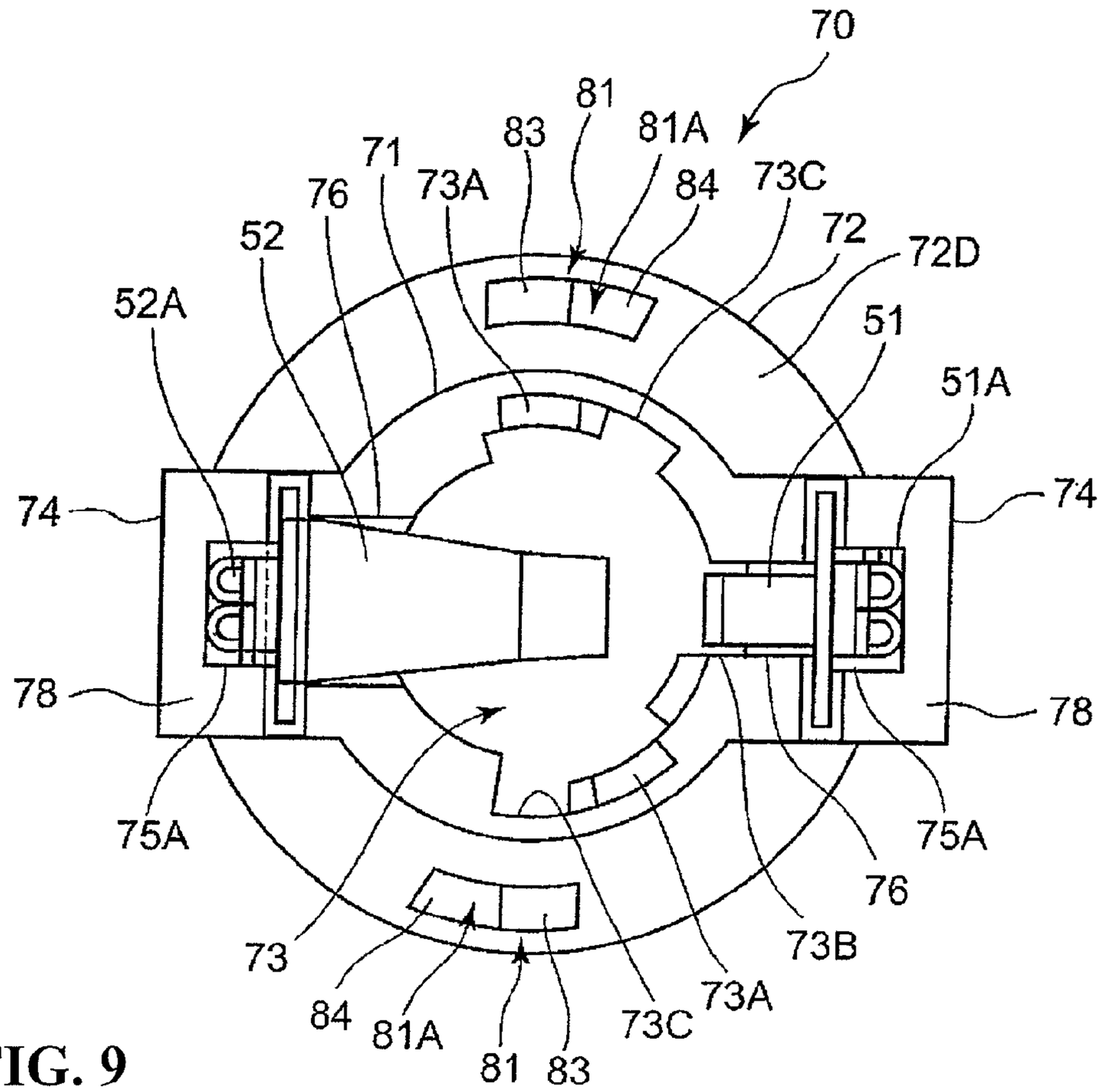
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FIG. 9

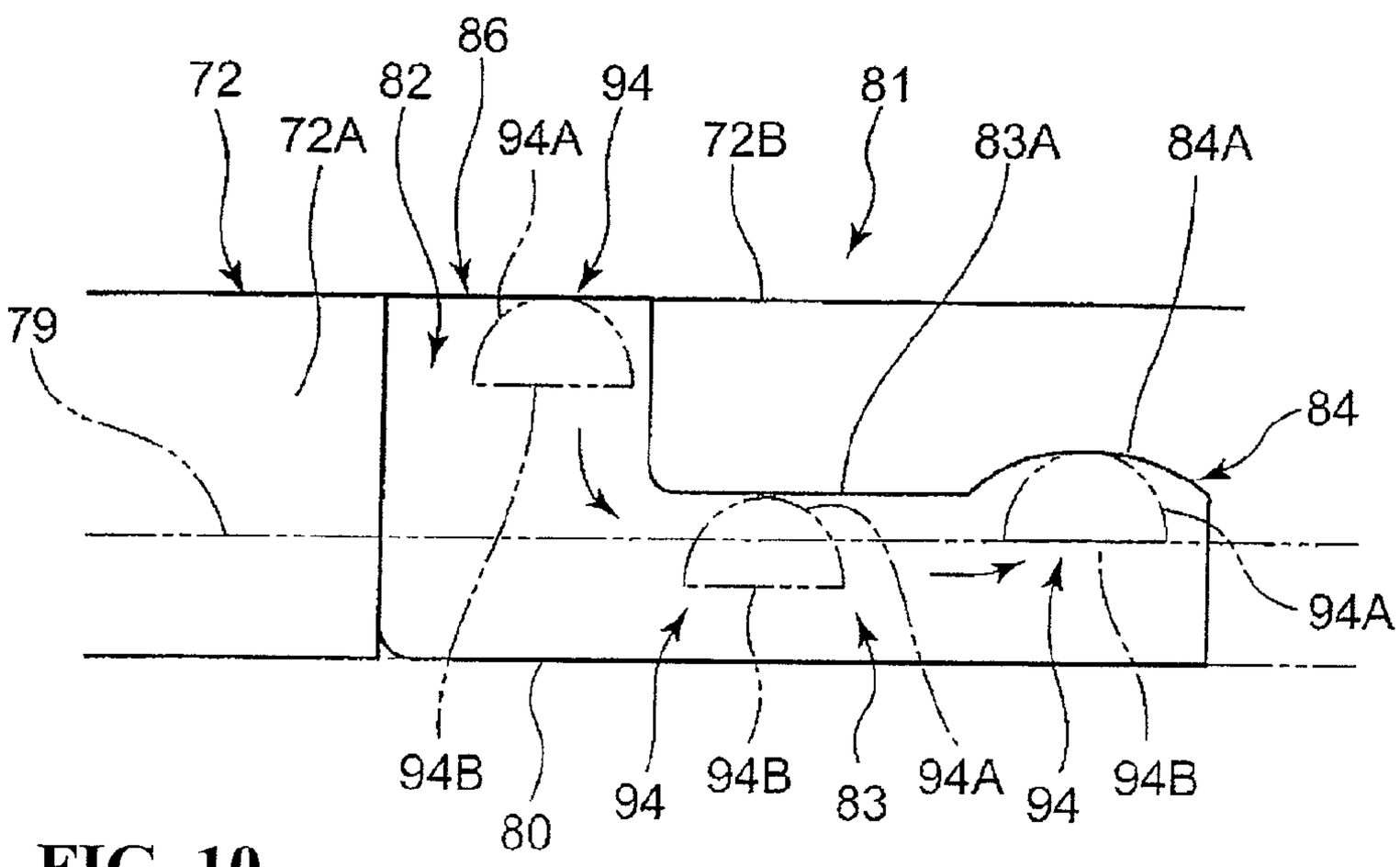
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FIG. 10

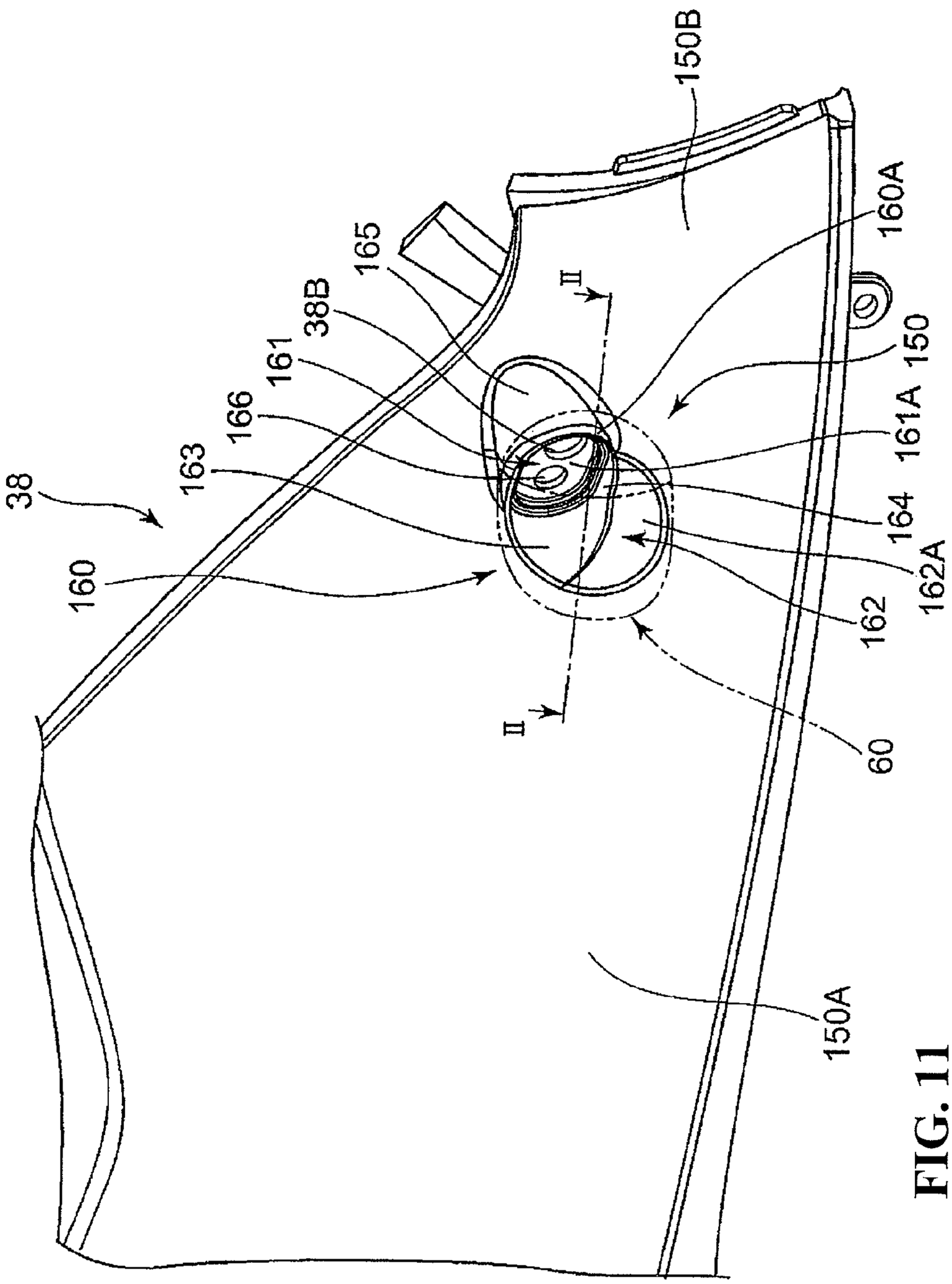
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FIG. 11

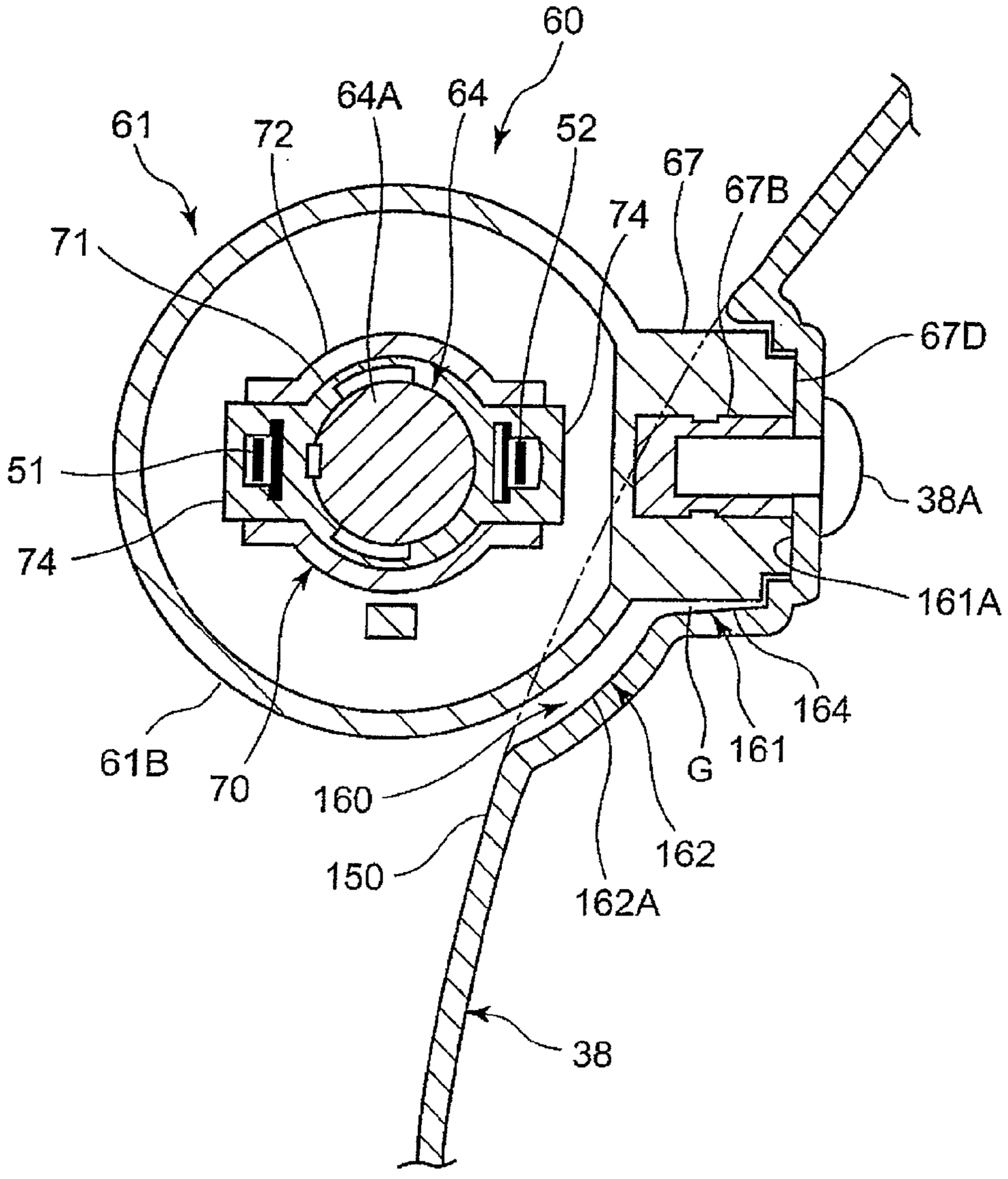
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FIG. 12

MOTORCYCLE LAMP FOR VEHICLE

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application claims priority under 35 USC 119 to Japanese Patent Application No. 2009-197095 filed on Aug. 27, 2009 and Japanese Patent Application No. 2009-197094 filed on Aug. 27, 2009 the entire contents of which are hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention relates to a motorcycle equipped with turn signal lamps.

DESCRIPTION OF BACKGROUND ART

Conventionally, a motorcycle is known wherein each rear side cover is provided with a recess of an elliptical shape elongated in the front-rear direction with a turn signal lamp disposed in the recess. See, for example, Japanese Patent No. 3877824. In Japanese Patent No. 3877824, the turn signal lamp is disposed on the front side relative to the rear end of the recess.

However, the above-mentioned conventional motorcycle has the following problem. Since the turn signal lamp is disposed in the recess and disposed in proximity to the rear side cover, it is possible to eliminate the feeling of protrusion of the turn signal lamp from the cover and to provide the cover with an integral appearance design, but the visibility of the turn signal lamp may be lowered if the turn signal lamp is designed to be light in weight and compact. For example, when the turn signal lamp disposed on the left side in the vehicle is viewed from the right rear side of the vehicle, the turn signal lamp would be hidden in the recess, so that it is difficult to secure the visibility of the turn signal lamp on the vehicle left side. Accordingly, it is desired to secure visibility of turn signal lamps, even where the turn signal lamps are light in weight and compact, while enhancing the appearance of the vehicle.

A configuration is also known for conventional lamps for vehicles in which a unit is obtained by preliminarily assembling a bulb onto a socket disposed on a reflector. The bulb is fixed to the reflector by a retainer clip, thereby mounting the bulb and the socket to the reflector. See, for example, Japanese Patent Laid-open No. 2005-71723.

In the lamp for a vehicle as above-mentioned, however, the retainer clip is needed as a fixing member for fixing the bulb and the socket to the reflector, leading to an increase in the number of component parts. Thus, problems result in regard of assembleability and maintainability.

SUMMARY AND OBJECTS OF THE INVENTION

The present invention has been made in consideration of the above-mentioned circumstances. Accordingly, it is an object of an embodiment of the present invention to ensure, in a motorcycle, that small-type turn signal lamps can be applied and the visibility of the turn signal lamps can be secured, while enhancing the appearance of the vehicle.

In order to solve the above-mentioned problem, according to an embodiment of the present invention, there is provided a motorcycle including a seat, a body cover covering the periphery of the lower side of the seat and formed in a curved shape such as to gradually decrease in width toward the rear

side of the vehicle, and turn signal lamps mounted at left and right portions in the vehicle width direction of the body cover, each of the turn signal lamps including a base member mounted to the body cover, a light source, and a lens covering the light source. The left and right turn signal lamps are disposed at recesses provided in the body cover wherein each of the left and right turn signal lamps is mounted to the body cover in such a manner that the lens is substantially entirely exposed from the recess so as not to overlap with a curved surface of the body cover in a plan sectional view as viewed from the upper side of the vehicle with the section containing an axis of the light source.

According to this configuration, even in the case where each of the turn signal lamps is disposed at the recess, substantially the whole part of the lens does not overlap with the body cover in a plan sectional view, the section containing the axis of the light source, and the lens is not obstructed from view by the body cover. Consequently, the visibility of the turn signal lamps can be secured and small-type turn signal lamps can be adopted, while enhancing the appearance of the vehicle by disposing the turn signal lamps at recesses so that the turn signal lamps and the body cover have a feeling of integrity. More particularly, since the lens is substantially entirely exposed from the recess, it is possible to secure the visibility of each turn signal lamp, for example, the visibility of the turn signal lamp on the left side as viewed from the right rear side of the vehicle.

In addition, in the above configuration, the base member may include a base part for mounting to the body cover, and a case part for accommodating the light source and a reflector, and the base part and part of the case part may be disposed inside the recess.

In this case, since the base part and part of the case part are disposed in the recess, each turn signal lamp can be disposed in a compact fashion at the body cover by suppressing the amounts of protrusion of the base part and the case part from the body cover so that these parts are inconspicuous, and the turn signal lamps can be protected from mud, small stones and the like.

In addition, the whole part of the turn signal lamp may be disposed at a position on the inner side relative to a maximum width in the vehicle width direction of the body cover.

In this case, the turn signal lamp can be protected by the body cover, notwithstanding the configuration in which the lens and the base member are exposed from the recess in the body cover.

Further, a fastening member for fixing the reflector or the lens to the case part may be provided, and the fastening member may be exposed from the recess.

In this case, since the fastening member is exposed from the recess, the fastening member can externally be attached and detached easily and the maintainability of the turn signal lamps can be enhanced, notwithstanding the configuration in which the turn signal lamps are disposed at the recesses in the body cover.

Furthermore, the fastening member may be fastened at a lower surface of the turn signal lamp.

In this case, since the fastening member is fastened at the lower surface of the turn signal lamp and the fastening member is thus provided at such a position as to be difficult to see from the outside of the vehicle, the appearance of the turn signal lamp can be enhanced.

In addition, the reflector and the lens may be coupled into integrity by adhesion or fusing, and the case part and the reflector may be fastened by the fastening member.

In this case, since the reflector and the lens are united by adhesion or fusing, an effective reflecting surface of the

reflector can be secured sufficiently, and sufficient visibility of the turn signal lamps can be obtained even where the turn signal lamps are disposed at the recesses in the body cover. Therefore, in the case where the turn signal lamps are disposed at the recesses in the body cover, the need to enlarge the reflectors in size and enlarge the turn signal lamps in size for the purpose of securing visibility of the turn signal lamps can be eliminated, and appearance can be enhanced.

In addition, the recess may include a first recessed portion for accommodating the base part and a second recessed portion for accommodating part of the case part, and the first recessed portion and the second recessed portion may be formed along the shapes of the base part and the case part.

In this case, since the first recessed portion and the second recessed portion are formed along the shapes of the base part and the case part, the first recessed portion and the second recessed portion can be minimized in size, which makes the recess difficult to see, so that the appearance of the vehicle can be enhanced.

Furthermore, the first recessed portion may be provided at its rear portion with a bulging portion where part of the body cover bulges toward the outside of the vehicle.

In this case, it is possible to set only the lens away from the curved surface of the body cover, so that the visibility of the turn signal lamp can be enhanced.

In the motorcycle according to an embodiment of the present invention, even where each turn signal lamp is disposed at the recess, substantially the whole part of the lens does not overlap with the body cover in a plan sectional view. Thus, the section containing the axis of the light source and the lens would not be obstructed from view by the body cover. Consequently, the visibility of the turn signal lamps can be secured and small-type turn signal lamps can be adopted, while enhancing the appearance of the vehicle by disposing the turn signal lamps at the recesses so that the turn signal lamps and the body cover have a feeling of integrity. More particularly, since substantially the whole part of the lens is exposed from the recess, it is possible to secure visibility of each turn signal lamp, for example, the visibility of the turn signal lamp on the left side as viewed from the right rear side of the vehicle.

In addition, since the base part and part of the case part are disposed in the recess, each turn signal lamp can be disposed in a compact fashion at the body cover by suppressing the amounts of protrusion of the base part and the case part from the body cover so that these parts are inconspicuous, and the turn signal lamps can be protected from mud, small stones and the like.

In addition, even where the lens and the base member are exposed from the recess in the body cover, the turn signal lamps can be protected by the body cover.

Further, since the fastening member is exposed from the recess, the fastening member can externally be attached and detached easily, so that the maintainability of the turn signal lamps can be enhanced.

Furthermore, since the fastening member is provided at the lower surface of the turn signal lamp where it is difficult to see from the outside of the vehicle, the appearance of the turn signal lamps can be enhanced.

In addition, since the reflector and the lens are united by adhesion or fusing, an effective reflecting surface of the reflector can be secured sufficiently. Therefore, where the turn signal lamps are disposed at the recesses in the body cover, the need to enlarge the reflector in size and to enlarge the turn signal lamp in size for the purpose of securing the visibility of the turn signal lamp can be eliminated. Thus, the appearance can be enhanced.

In addition, since the first recessed portion and the second recessed portion are formed along the shapes of the base part and the case part, the first recessed portion and the second recessed portion can be minimized in size, and the recess is made difficult to see, so that the appearance of the vehicle can be enhanced.

Further, it is possible to set only the lens away from the curved surface of the body cover, so that the visibility of the turn signal lamps can be enhanced.

An embodiment of the present invention reduces the number of component parts and enhances assembleability and maintainability for a lamp for a vehicle which includes a reflector.

In order to attain the above object, according to an embodiment of the present invention, there is provided a lamp for a vehicle, including a bulb, a reflector formed with a through-hole for insertion of the bulb, and a socket for supporting the bulb, characterized in that the reflector is provided, at the outside surface on the back side thereof which is located in the periphery of the through-hole, with a reflector engaging part molded integrally with the reflector, and the socket is provided with a socket engaging part for engagement with the reflector engaging part.

According to this configuration, a reflector engaging part formed as one body with the reflector is attached directly to a socket engaging part of the socket. Therefore, a fixing member for exclusive use for fixing the socket to the reflector is made unnecessary, whereby the number of component parts can be reduced, and assembleability and maintainability can be enhanced. Further, since the reflector engaging part is formed at the outside surface on the back side of the reflector, the reflector engaging part would not hinder reflection by the reflector, so that a reduction in the reflection area of the reflector can be prevented, and a light emission area can be secured without enlarging the reflector in size. Accordingly, a sufficient light emission area and a sufficient irradiation area of the reflector can be secured while making the lamp smaller in size.

In addition, in the above configuration, the bulb may be inserted into the through-hole from the back side of the reflector and disposed inside a concave part of the reflector, in the condition where the bulb and the socket have been integrally assembled onto each other, and the socket engaging part may be fitted to the reflector engaging part and the socket may be turned, to thereby engage the socket engaging part and the reflector engaging part with each other.

In this case, the bulb and the socket can be fixed to the reflector by only turning the socket in the condition where the socket engaging part of the socket with the bulb assembled thereto has been fitted to the reflector engaging part, and, therefore, assembleability and maintainability can be enhanced.

In addition, the reflector may be provided with a tubular reflector tubular part at that outside surface on the back side thereof which is located in the periphery of the through-hole, an outer peripheral wall of the reflector tubular part may be provided with the reflector engaging part; and the socket may be provided with a first tubular part for supporting the bulb and with a second tubular part on the outer peripheral side of the first tubular part, and an inner peripheral wall of the second tubular part may be provided with the socket engaging part.

In this case, since the reflector tubular part is provided with the reflector engaging part at the outer peripheral wall thereof and the reflector engaging part is engaged with the socket engaging part at the inner peripheral wall of the second tubular part, the diameter of the through-hole in the reflector

tubular part can be minimized, a reduction in the reflection area of the reflector can be prevented, and a light emission area can be secured. In addition, since the socket engaging part is provided on the outer peripheral side of the first tubular part and at the inner peripheral wall of the second tubular part, the socket can be made smaller in size while securing the size of the first tubular part for supporting the bulb.

In addition, since the first tubular part and the second tubular part are coaxially provided on the inner and outer sides, the holding of the bulb and the engagement of the socket with the reflector are also achieved in a coaxial relationship, and the bulb can be held onto the reflector with good positional accuracy.

Further, a stepped portion may be formed by the first tubular part and the second tubular part at a back-side end portion of the socket, and bulb terminals may be disposed at the stepped portion.

In this case, since the bulb terminals are disposed at the stepped portion formed at a back-side end portion of the socket, a reduction in the size of the socket in the face-back direction can be promised, and the lamp can be made further smaller in size.

Further, a configuration may be adopted in which the reflector engaging part and the socket engaging part include a protrusion portion and a cutout portion for engagement with the protrusion portion, respectively, the cutout portion includes a passage portion permitting the protrusion portion to pass therethrough and an accommodating portion for accommodating the protrusion portion, a seal member is interposed between the reflector tubular part and the socket, and the protrusion portion is held in the accommodating portion by resilience arising from the seal member.

In this case, since it is possible to hold the protrusion portion in the accommodating portion and to thereby engage the socket and the reflector with each other by utilizing the seal member provided between the reflector tubular part and the socket, the number of component parts can be reduced. In addition, since the protrusion portion can be held in the accommodating portion by the resilience of the seal member, the socket and the reflector can be fixed firmly.

Furthermore, a lens covering a reflecting surface of the reflector may be provided, and the reflector and the lens may be adhered and fixed to each other.

In this case, since the lens and the reflector can be adhered and fixed to each other, for example, by using an adhesive or by fusing, without using any fixture such as screw, a reduction in the light emission area of the reflector by a fixture can be obviated, and the light emission area of the reflector can be secured.

The vehicle may be a motorcycle, the lamp may be a blinker (turn signal lamp), and the blinker may be disposed in a recess formed in a body cover of the motorcycle.

Particularly in a motorcycle, lamps have a great influence on the appearance of the vehicle, and are demanded to be smaller in size. On the other hand, the lamps of a motorcycle are desired to fulfill sufficiently the visibility thereof from a third person. According to the above-mentioned configuration, a reduction of the lamp in size can be promised while securing a sufficient light emission area and a sufficient irradiation area of the reflector. Accordingly, in a configuration in which blinkers are disposed in recesses provided in the body cover of a motorcycle, a good visibility of the blinkers is ensured, and the lamps can be prevented from adversely influencing the appearance of the vehicle.

In the lamp for a vehicle according to an embodiment of the present invention, the reflector engaging part molded as one body with the reflector is attached directly to the socket engaging part of the socket. This makes it possible to eliminate the need for a fixing member for exclusive use, to reduce the number of component parts, and to enhance assembleability and maintainability. Further, since the reflector engaging part is formed at the outside surface on the back side of the reflector, the reflector engaging part would not hinder the reflection on the reflector, so that a reduction in the reflection area of the reflector can be obviated, and a light emission area can be secured without enlarging the reflector in size. Accordingly, a sufficient light emission area and a sufficient irradiation area of the reflector can be secured, while making the lamp smaller in size.

In addition, it is possible to fit the socket engaging part to the reflector engaging part, to fix the bulb and the socket to the reflector by only turning the socket, and to enhance assembleability and maintainability.

In addition, since the reflector engaging part is provided at the outer peripheral wall of the reflector tubular part and the reflector engaging part is engaged with the socket engaging part at the inner peripheral wall of the second tubular part, it is possible to minimize the diameter of the through-hole in the reflector tubular part, to prevent a reduction in the reflection area of the reflector, and to secure a light emission area. In addition, since the socket engaging part is provided on the outer peripheral side of the first tubular part and at the inner peripheral wall of the second tubular part, it is possible to make the socket smaller in size while securing the size of the first tubular part for supporting the bulb.

In addition, since the first tubular part and the second tubular part are coaxially provided on the inner and outer sides, the holding of the bulb and the engagement of the socket with the reflector are in a coaxial relationship, so that the bulb can be held in good positional accuracy in relation to the reflector.

Further, since the bulb terminals are disposed at the stepped portion at the back-side end portion of the socket, a reduction in the size of the socket in the face-back direction can be achieved, and the lamp can be further reduced in size.

Furthermore, since the socket and the reflector can be engaged with each other while holding the protrusion portion in the accommodating portion by utilizing the seal member, the number of component parts can be reduced. In addition, since the protrusion portion can be held in the accommodating portion by the resilience of the seal member, the socket and the reflector can be fixed firmly.

In addition, since the lens and the reflector are adhered and fixed without using any fixture such as screw, a reduction in the light emission area of the reflector due to the presence of a fixture can be obviated, and the light emission area of the reflector can be secured.

Further, in the lamp for a motorcycle, a reduction in size can be achieved while securing a sufficient light emission amount. Accordingly, in a configuration in which blinkers are disposed in recesses provided in the body cover of a motorcycle, the visibility of the blinkers are enhanced, and the blinkers can be prevented from adversely affecting the appearance of the vehicle.

Further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood from the detailed description given hereinbelow and the

accompanying drawings which are given by way of illustration only, and thus are not limitative of the present invention, and wherein:

FIG. **1** is a left side view of a motorcycle pertaining to an embodiment of the present invention;

FIG. **2** is a plan sectional view, as viewed from above, of a rear blinker on the left side in a vehicle;

FIG. **3** is a side sectional view, as viewed from the left side of the vehicle, of the rear blinker on the left side in the vehicle;

FIG. **4** is an exploded plan view, as viewed from above, of the rear blinker on the left side in the vehicle;

FIG. **5** is an exploded perspective view of the rear blinker;

FIG. **6** is a side view, as viewed from the left side of the vehicle, of a reflector;

FIG. **7** is a front view, as viewed from the back end side of the rear blinker, of the reflector;

FIG. **8** is a front view, as viewed from the face end side of the rear blinker, of a socket;

FIG. **9** is a front view, as viewed from the back end side of the rear blinker, of the socket;

FIG. **10** is a view, as viewed from the inner peripheral side of a second tubular part, of a socket engaging part;

FIG. **11** is a perspective view of a side cover on the left side in the vehicle; and

FIG. **12** is a sectional view taken along line XII-XII of FIG. **2**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Now, a motorcycle according to an embodiment of the present invention will be described below, referring to the drawings. The directions of up, down, front, rear, left and right in the following description refer to those directions as viewed from the driver.

FIG. **1** is a left side view of the motorcycle pertaining to the present invention. The motorcycle **10** is a motor scooter type motorcycle which includes, as main components, a body frame **11**, a front fork **12** mounted to a head pipe **11***a* at a front portion of the body frame **11**, a front wheel **13** mounted to lower ends of the front fork **12**, a handlebar **14** connected to the front fork **12**, a power unit **15** vertically swingably mounted to a rear portion of the body frame **11**, a rear wheel **16** mounted to a rear portion of the power unit **15**, a rear shock absorber unit **17** bridgingly disposed between a rear end portion of the power unit **15** and a rear portion of the body frame **11**, an accommodating box **18** mounted to a rear upper portion of the body frame **11**, and a seat **19** disposed on the upper side of the accommodating box **18** and so mounted that the accommodating box **18** can be opened and closed.

The power unit **15** is composed of a water-cooled type engine **21** at a front portion, and a power transmission mechanism **22** at a rear portion. The engine **21** is disposed substantially horizontally, with its cylinder head directed forward.

In addition, the body frame **11** of the motorcycle **10** is covered with a body cover **30**. The body cover **30** includes a front cover **31** for covering a front portion of the head pipe **11***a*, a leg shield **32** for covering the front side of the driver's legs, a step floor **33** on which the driver's feet are to be put, left and right floor side covers **34** extending downward from outer edges of the step floor **33**, an under cover **35** for covering a space between the lower edges of the floor side covers **34**, a seat lower part cover **36** for covering the periphery of a front half portion of the accommodating box **18**, a rear cover **37** for covering the periphery of a rear half portion of the accommodating box **18** and a rear portion of the vehicle body, and left and right side covers **38** (body covers) extending rearward continuously from the seat lower part cover **36** and connected to the rear cover **37**. The left and right side covers **38** are separately formed as left and right parts constituting a left-right pair, and cover the periphery of a space on the lower side of the seat **19**.

An ignition key cylinder **41** is disposed inside the leg shield **32**, and a fuel tank **42** and a fuel pump **43** are disposed under the step floor **33**. A tray (omitted in the drawing) is provided at an upper end portion of a rear part of the body frame **11**. A radiator reservoir tank **44**, a battery **45** and a control unit **46** are disposed in the tray.

Further, a central portion of the handlebar **14** is covered with a handlebar front cover **56**F and a handlebar rear cover **56**R, and the handlebar rear cover **56**R is fitted with front blinkers **55** provided as a pair of left and right ones arrayed in the vehicle width direction.

A tail lamp **9** is provided at the vehicle width center of rear portions of the side covers **38**, and a rear fender **8** which is continuous with the side covers **38** and which covers the upper side of the rear wheel **16** is mounted on the lower side of the tail lamp **9**. A number plate **7** is attached to the rear fender **8**.

In addition, on the front side relative to the tail lamp **9**, rear blinkers **60** as turn signal lamps provided in a pair of left and right ones arrayed in the vehicle width direction are attached to the left and right side covers **38**, respectively. The rear blinker **60** is formed in an ellipsoidal shape, and is disposed with its light emitting surface directed toward the rear side of the vehicle.

In FIG. **1**, a handle grip **23**, a brake bar **24**, a meter **25**, a mirror **26**, a head lamp **27**, a horn **28**, a front fender **29**, a power unit mounting hanger **21**A, a engine-starting kick pedal **47**, an air cleaner **48**, a carburetor **49**, an engine-cooling radiator **57**, an engine exhaust pipe **58**, an exhaust muffler **59**, a main stand **39**, a carrier **54** and a helmet He are provided.

FIG. **2** is a plan sectional view, as viewed from above, of the rear blinker **60** on the left side in the vehicle. FIG. **3** is a side sectional view, as viewed from the left side of the vehicle, of the rear blinker **60** on the left side in the vehicle. FIG. **4** is an exploded plan view, as viewed from above, of the rear blinker **60** on the left side in the vehicle. FIG. **5** is an exploded perspective view of the rear blinker **60**. Here, the rear blinkers **60** are disposed as a pair of left and right ones, and the left and right rear blinkers **60** are configured to be symmetrical on the left and right sides. In view of this, in this embodiment, the rear blinker **60** on the left side in the vehicle will be described.

As shown in FIGS. **2** to **5**, the rear blinker **60** has a structure in which a substantially hemispherical lens **62** for covering an aperture at one end of a base member **61** formed in a hollow hemispheroidal shape is attached to the base member **61**, to form a lamp chamber **63**. A bulb **64** as a light source formed in a cylindrical shape, a socket **70** for supporting the bulb **64**, a waterproof cover **65** for covering a rear portion of the socket **70**, and a reflector **90** provided so as to surround the periphery of the bulb **64**, are accommodated in the lamp chamber **63**.

As shown in FIG. **2**, the rear blinker **60** is fixed to the side cover **38** so as to protrude on a left side surface of the vehicle body, and is disposed so that the lens **62** as a light emitting surface provided at the face end of the rear blinker **60** is directed toward the rear side of the vehicle. More specifically, the rear blinker **60** is so mounted that the lens **62** at the face portion of the rear blinker **60** is directed toward the rear side of the vehicle and that it is visible from the rear side of the vehicle. In the description of this embodiment, the side of the lens **62** is taken as the face side of the rear blinker **60**, and the side of the base member **61** is taken as the back side of the rear blinker **60**.

The bulb **64** includes a barrel part **64**A supported in the state of being fitted in the socket **70**, and a light emitting part **64**B having a filament and extending toward the face end side of the rear blinker **60** from the barrel part **64**A. An optical axis C passing through the center of the bulb **64** and extending rearward coincides with the optical axis of the rear blinker **60**. The barrel part **64**A is provided, at two positions, with protuberant portions **64**C which are protuberant in the radial direction of the barrel part **64**A.

The socket **70** has a first tubular part **71** for supporting the bulb **64** by fitting to the barrel part **64**A, and a second tubular part **72** formed in a cylindrical shape on the outer peripheral side of the first tubular part **71**. The first tubular part **71** and the second tubular part **72** are formed integrally, and are provided coaxially. The first tubular part **71** is formed with a through-hole **73** for insertion of the barrel part **64**A. As shown in FIG. **3**, the through-hole **73** is provided in its inner peripheral surface with engaging grooves **73**A for engagement with the protuberant portions **64**C of the bulb **64**. In addition, as shown in FIG. **5**, the second tubular part **72** is formed so as to protrude in the radial direction from the first tubular part **71**, on the face end side of the socket **70**. Here, the socket **70** is formed from a synthetic resin.

As shown in FIGS. **2** and **5**, the second tubular part **72** is provided on its back end side with protruding portions **74** protruding over the outer peripheral surface of the first tubular part **71**. The protruding portions **74** are provided at opposed two positions over the outer peripheral surface of the first tubular part **71**, and a hollow terminal accommodating portion **75** is formed between each of the protruding portions **74** and the first tubular part **71**. The terminal accommodating portion **75** is provided with an aperture **75**A on the back end side thereof, and a terminal to be connected to the bulb **64** is accommodated in the terminal accommodating portion **75** through the aperture **75**A.

A minus terminal **51** to be put in contact with the outer peripheral surface of the barrel part **64**A is accommodated in the terminal accommodating portion **75** on one side, whereas a plus terminal **52** to be put in contact with the back end of the barrel part **64**A is accommodated in the terminal accommodating portion **75** on the other side. The socket **70** is provided at its back end with terminal grooves **76** formed by hollowing back end portions, and each of the minus terminal **51** and the plus terminal **52** extends through the terminal groove **76** and through the inside of each terminal accommodating portion **75** into the through-hole **73**, to be electrically connected to the barrel part **64**A.

The minus terminal **51** extends through a groove portion **73**B, which is formed in the inner surface of the through-hole **73**, to the face end side of the socket **70**. The plus terminal **52** is bent so as to make contact with the back end of the barrel part **64**A, and resilience of the plus terminal **52** urges the bulb **64** toward the face end side. In other words, the bulb **64** is fixed to the socket **70** by being urged toward the face end side by the plus terminal **52** in the condition where its protuberant portions **64**C are in engagement with the engaging groove **73**A. At the time of assembling, the protuberant portions **64**C are engaged with the engaging groove **73**A, whereby the bulb **64** and the socket **70** can preliminarily be assembled onto each other to form a unit.

As shown in FIG. **2**, on the back end side in the inside of each terminal accommodating portion **75**, a hook portion **77** is formed by projecting the first tubular part **71** one step in the radial direction. The minus terminal **51** and the plus terminal **52** have claw parts **51**A and **52**A, respectively, and the claw parts **51**A and **52**A are hooked on the hook portions **77**, whereby the minus and plus terminals **51** and **52** are locked inside the terminal accommodating portions **75**.

In addition, the protruding portions **74** of the second tubular part **72** protrude to the outside of the first tubular part **71**, whereby stepped portions **78** hollowed to the inner peripheral side of the second tubular part **72** are formed on the back end side of the protruding portions **74**. The minus terminal **51** and the plus terminal **52** respectively have terminal portions **51**B and **52**B (bulb terminals) disposed to project into the inside of the stepped portions **78**, and wires **66** for connecting the minus terminal **51** and the plus terminal **52** to a control circuit (omitted in the drawings) provided on the side of the body frame **11** are connected to the terminal portions **51**B and **52**B, respectively. With the terminal portions **51**B and **52**B thus disposed in the stepped portions **78** formed at the back end portion of the socket **70**, the terminal portions **51**B and **52**B would not protrude in the face-back direction of the socket **70**, so that the socket **70** provided with the minus terminal **51** and the plus terminal **52** can be configured to be compact.

As shown in FIG. **5**, the waterproof cover **65** has a fitting portion **65**A for fitting to the outer periphery of the first tubular part **71**, and arm portions **65**B for externally covering the protruding portions **74**, and is so mounted as to cover a back end portion of the socket **70**. In addition, the fitting portion **65**A is formed with a wiring hole **65**C permitting the wires **66** to pass therethrough. The waterproof cover **65** is formed from an elastomer.

The reflector **90** includes a reflector body part **91** having a roughly paraboloid-shaped concave portion **90**A. A reflector tubular part **92** extending in a cylindrical shape in the axial direction of the bulb **64** toward the back end side of the rear blinker **60** is erectly provided at a vertex portion of the roughly paraboloid-shaped surface of the reflector body part **91**. The reflector tubular part **92** is formed with a through-hole **93** for insertion of the bulb **64**. The reflector tubular part **92** is formed around the through-hole **93**.

The reflector tubular part **92** is provided at its back end with a plurality of reflector engaging parts **94** protruding in the radial direction of the reflector tubular part **92**. As shown in FIGS. **2** and **3**, the reflector **90** is fixed to the socket **70** by a process in which the reflector engaging parts **94** are engaged with a face end portion of the second tubular part **72** of the socket **70**. Here, the reflector **90** is formed from a synthetic resin; specifically, the reflector body part **91**, the reflector tubular part **92** and the reflector engaging parts **94** are integrally formed by resin molding.

In addition, an elastic sheet-shaped seal member **79** is interposed between the reflector tubular part **92** and the socket **70**. The gap between the reflector tubular part **92** and the socket **70** is sealed with the seal member **79**, whereby the unit is waterproof.

A reflecting surface **91**A for reflecting the light emitted from a light emitting part **64**B is formed at the inside surface of the roughly paraboloid-shaped concave portion **90**A of the reflector body part **91**. The light emitted from the light emitting part **64**B disposed in the center of the concave portion **90**A is distributed by the reflecting surface **91**A, to be cast from the face end of the rear blinker **60** toward the rear side of the vehicle.

In addition, outside surfaces of the reflector body part **91** and the reflector tubular part **92** constitute an outside surface **91**B on the back side of the reflecting surface **91**A. The reflector body part **91** is formed at its face end portion with a flange portion **95** projecting in the radial direction from the outside surface **91**B. The flange portion **95** is formed in an annular shape along the whole circumference of the outside surface **91**B. The flange portion **95** is erectly provided with an

annular wall portion **96** formed to have a diameter smaller than the outside diameter of the flange portion **95**.

On the back end side of the reflector body part **91**, as shown in FIGS. **3** to **5**, an engaging protrusion **97** protruding in the radial direction from the outside surface **91**B is formed. The engaging protrusion **97** is engaged with an engaging protuberant portion **69** (see FIG. **3**) which will be described later. As shown in FIG. **3**, a boss portion **98** protruding in the radial direction is provided on the outside surface **91**B at a position opposite to the engaging protrusion **97**. The boss portion **98** is formed with a female screw portion **98**A. A screw **99** (fastening member) for fixing the reflector **90** to the base member **61** is fastened into the female screw portion **98**A.

The hemispherical lens **62** is mounted with its convex curved surface portion directed toward the face end side of the rear blinker **60**, and covers the reflecting surface **91**A. The lens **62** is formed at its back end with an annular lens-side engaging part **62**A for external engagement with an outer peripheral surface of the wall portion **96** of the reflector body part **91**. In addition, the lens-side engaging part **62**A is provided at its outer peripheral surface with a stepped portion **62**B hollowed one step from a peripheral edge portion at the back end of the lens **62**.

The lens **62** is positioned through a process in which the lens-side engaging part **62**A is abutted on the flange portion **95** of the reflector body part **91** and is engaged with the wall portion **96**. The lens **62** is fixed by fusing the lens-side engaging part **62**A to the flange portion **95** and the wall portion **96**. The lens **62** and the reflector **90** are preliminarily united by fusing, before assembly of the rear blinker **60**, to constitute a reflector unit **100**.

In addition, after assembled to constitute the rear blinker **60**, the stepped portion **62**B is in engagement with the face end of the base member **61** so that the step at the stepped portion **62**B is filled up. As a result, the seam between the lens **62** and the base member **61** is inconspicuous, so that improved appearance can be secured. Here, the lens **62** is formed from a light-transmitting synthetic resin.

As shown in FIG. **2**, the base member **61** includes: a case part **61**B for accommodating the bulb **64**, the socket **70**, the waterproof cover **65** and the reflector **90**; and a base part **67** protruding in the radial direction from an outer peripheral surface of the case part **61**B. The base part **67** is used for attaching the rear blinker **60** to the side cover **38**. The base part **67** is provided with a wiring hole portion **67**A for passing the wires **66** through the wiring hole **38**B formed in the side cover **38**, and a female screw portion **67**B. The rear blinker **60** is fixed to the side cover **38** by a set screw **38**A fastened into the female screw portion **67**B from the side of the side cover **38**. In addition, the base member **61** is positioned by engagement of a positioning protrusion **67**C, which is provided at an end of the wiring hole portion **67**A, with the wiring hole **38**B in the side cover **38**.

The base member **61** is provided at its face end portion with a mounting stepped portion **68** formed by a method in which the plate thickness of the base member **61** is reduced one step on the inner peripheral side. In addition, as shown in FIG. **3**, a hole **61**A for insertion of the screw **99** is provided on the back side of the mounting stepped portion **68**, and the engaging protuberant portion **69** for engagement with the engaging protrusion **97** of the reflector **90** is formed at that inner peripheral surface of the base member **61** which is opposite to the hole **61**A. The engaging protuberant portion **69** has a face-side wall part **69**A coming into abutment on a face-side surface of the engaging protrusion **97** to thereby restrain the reflector **90** from moving toward the face side, and a side wall part **69**B coming into contact with both side surfaces of the engaging protrusion **97** to thereby restrain the reflector **90** from moving in rotating directions.

The reflector **90** is fixed to the base member **61** through a process in which the screw **99** is fastened into the female screw portion **98**A of the reflector **90** through the hole **61**A in the condition where the engaging protrusion **97** and the engaging protuberant portion **69** are mutually engaged and where the flange portion **95** is in abutment on the mounting stepped portion **68**.

In addition, the screw **99** is provided on the lower side in FIG. **3**, specifically, at a lower surface **60**A of the rear blinker **60**. This ensures that the screw **99** is not easily seen when the motorcycle **10** is viewed from the outside, so that the appearance of the motorcycle **10** can be enhanced.

FIG. **6** is a side view, as viewed from the left side of the vehicle, of the reflector **90**. FIG. **7** is a front view, as viewed from the back end side of the rear blinker **60**, of the reflector **90**.

As shown in FIGS. **6** and **7**, the reflector engaging parts **94** are columnar protrusion parts protruding in the radial directions from the back end of an outer peripheral wall **92**A of the reflector tubular part **92**, and are provided at four positions equally spaced along the circumferential direction of the outer peripheral wall **92**A of the reflector tubular part **92**. More specifically, the reflector engaging parts **94** are provided at four positions on the outer peripheral wall **92**A of the reflector tubular part **92**, the four positions being at angular intervals of about 90°.

As shown in FIG. **6**, each of the reflector engaging parts **94** is formed to be semicircular when viewed along the axial direction of the columnar shape thereof. The reflector engaging part **94** has a curved surface portion **94**A which is formed as a convex curved surface, and a flat portion **94**B which is flat. The curved surface portion **94**A is arranged with its convex portion directed toward the face end side of the rear blinker **60**, and the flat portion **94**B is formed to be flush with the back end of the reflector tubular part **92**.

FIG. **8** is a front view, as viewed from the face end side of the rear blinker **60**, of the socket **70**. FIG. **9** is a front view, as viewed from the back end side of the rear blinker **60**, of the socket **70**.

As shown in FIGS. **8** and **9**, the inner peripheral surface of the through-hole **73** is formed with two inlet grooves **73**C penetrating along the axial direction of the through-hole **73**. The inlet grooves **73**C are continuous respectively with the two engaging grooves **73**A formed on the back side of the through-hole **73**. The protuberant portions **64**C of the bulb **64** are engaged with the engaging grooves **73**A through the inlet grooves **73**C. More specifically, the bulb **64** is fixed through a process in which the barrel part **64**A is inserted into the through-hole **73** while passing the protuberant portions **64**C through the inlet grooves **73**C. Thereafter, the bulb **64** is rotated clockwise in FIG. **8** to put the protuberant portions **64**C into engagement with the engaging grooves **73**A.

As shown in FIGS. **5** and **8**, a bottom portion **80** hollowed toward the back side relative to face end portions of the first tubular part **71** and the second tubular part **72** is formed between the first tubular part **71** and the second tubular part **72** in the radial direction of the socket **70**. The bottom portion **80** is formed in an annular shape along the whole circumference of and on the outer peripheral side of the first tubular part **71**. The annular seal member **79** is provided at the bottom portion **80**.

In addition, an inner peripheral wall **72**A of the second tubular part **72** is provided with groove-formed socket engaging parts **81** formed by digging the inner peripheral wall **72**A toward the outer peripheral side. The reflector **90** is fixed to

the socket **70** by engagement of the reflector engaging parts **94** with the socket engaging parts **81**.

The socket engaging parts **81** are provided at four positions substantially equally spaced along the circumferential direction of the inner peripheral wall **72**A of the second tubular part **72**. More specifically, the socket engaging parts **81** are provided at the four positions corresponding to the layout of the reflector engaging parts **94**, the four positions being spaced at angular intervals of about 90°.

FIG. **10** is a view, as viewed from the inner peripheral side of the second tubular part **72**, of the socket engaging part **81**. While the socket engaging parts **81** are provided at the four positions in this embodiment, the socket engaging parts **81** are all configured similarly. In view of this, the socket engaging part **81** at one position will be described here.

As shown in FIGS. **8** and **10**, the socket engaging part **81** is formed in a face end portion of the second tubular part **72**, and has a cutout portion **86** which is cut out in a groove shape. The cutout portion **86** includes: a longitudinal passage portion **82** opening in a face end surface **72**B of the second tubular part **72** and extending to a bottom portion **80**; a transverse passage portion **83** extending in the circumferential direction of the second tubular part **72** along the bottom portion **80** from the longitudinal passage portion **82**; and a protrusion accommodating portion **84** formed at an end of the transverse passage portion **83**. In other words, the socket engaging part **81** is a roughly L-shaped groove which has the longitudinal passage portion **82** extending in the vertical direction in FIG. **10** and the transverse passage portion **83** extending in the left-right direction in the figure from a lower portion of the longitudinal passage portion **82**. In addition, the roughly L-shaped groove is formed to be substantially uniform in depth in the radial direction.

The protrusion accommodating portion **84** is formed by cutting out a face-side wall **83**A of the transverse passage portion **83** toward the side of the face end surface **72**B, and has a curved surface shaped engaging portion **84**A which is hollowed in a curved surface shape toward the side of the face end surface **72**B.

As shown in FIG. **10**, the reflector engaging part **94** enters the longitudinal passage portion **82** through the aperture of the longitudinal passage portion **82**, passes through the transverse passage portion **83** to reach the protrusion accommodating portion **84**, and is engaged with the curved surface shaped engaging portion **84**A. More in detail, as shown in FIGS. **2** and **10**, when the reflector engaging part **94** enters the longitudinal passage portion **82**, the tip of the reflector tubular part **92** compresses the seal member **79** between itself and the bottom portion **80**, whereby the gap between the face-side wall **83**A and the seal member **79** is broadened so as to permit the reflector engaging part **94** to pass through the transverse passage portion **83**. Then, the reflector engaging part **94** passes through the transverse passage portion **83**, with its curved surface portion **94**A being pressed against the face-side wall **83**A by the resilience arising from the compression of the seal member **79**, and is engaged with the protrusion accommodating portion **84**.

In addition, since the reflector engaging part **94** is engaged in the state of being pressed against the protrusion accommodating portion **84** by the resilience of the seal member **79**, the reflector **90** can be firmly fixed to the socket **70**. Furthermore, since the reflector engaging part **94** is pressed against the protrusion accommodating portion **84** by the seal member **79**, chattering between the reflector engaging part **94** and the protrusion accommodating portion **84** can be prevented.

A lower portion of the socket **70** shown in FIG. **8**, namely, that portion of the socket **70** in the assembled state which corresponds to the lower surface side of the rear blinker **60**, is provided with a drain groove **85** formed by hollowing the face end surface **72**B of the second tubular part **72** one step toward the back end side. The drain groove **85** permits water having penetrated into a space between the socket **70** and the reflector **90** to be drained downward.

In addition, as shown in FIG. **9**, the second tubular part **72** is formed in its back surface **72**D with die-drawing holes **81**A communicating with the socket engaging parts **81**. The die-drawing holes **81**A are holes for drawing out dies which are used for molding the socket engaging parts **81** as cavities at the time of molding the socket **70** from a resin.

Further, since the minus terminal **51** and the plus terminal **52** are passed through the terminal grooves **76** formed by hollowing a back end portion of the socket **70**, the socket **70** can be made smaller in length in the face-back direction.

Now, a procedure for assembling the rear blinker **60** will be described below.

First, as shown in FIGS. **2** and **5**, the bulb **64** is assembled onto the socket **70** in the condition where the minus terminal **51**, the plus terminal **52** and the seal member **79** have been attached to the socket **70**. As a result, a bulb unit body **110** having the bulb **64** and the socket **70** integrally mounted to each other is assembled. In this case, the bulb **64** is engaged with the engaging grooves **73**A by only inserting the protuberant portions **64**C into the inlet grooves **73**C and performing a rotating operation, whereon the bulb **64** is in the state of being pressed against the engaging grooves **73**A by the plus terminal **52**. Accordingly, the bulb unit body **110** can be assembled easily.

Next, the bulb unit body **110** is assembled onto the reflector unit **100**. More specifically, the bulb **64** is passed through the through-hole **93** from the back side of the reflector **90**, and is disposed in the concave portion **90**A. In addition, the reflector engaging parts **94** are inserted into the longitudinal passage portions **82** (see FIG. **10**) in the socket **70**, and are fitted to the socket engaging parts **81**. Further, the seal member **79** is compressed by the reflector tubular part **92**. In this condition, the socket **70** is turned counterclockwise in FIG. **8** about the axis of the bulb **64**. Consequently, the reflector engaging parts **94** are passed through the transverse passage portions **83**, to be engaged with the protrusion accommodating portions **84**, whereby the bulb unit body **110** and the reflector unit **100** are integrally assembled together. While the assembling work has just been described assuming that the socket **70** is turned in the condition where the reflector engaging parts **94** are engaged with the socket engaging parts **81**, it suffices for the socket **70** and the reflector engaging parts **94** to be turned relative to each other. Therefore, a method may be adopted in which the reflector engaging parts **94** are turned clockwise in FIG. **8**.

Since the reflector engaging parts **94** molded to be integral with the reflector **90** are thus directly engaged with and mounted to the socket engaging parts **81** of the socket **70**, a fixing member for exclusive use to fix the socket **70** onto the reflector **90** is made unnecessary, whereby the number of component parts can be reduced.

Subsequently, the waterproof cover **65** is attached to the socket **70**. Then, the engaging protrusion **97** of the reflector **90** is engaged with the engaging protuberant portion **69** of the base member **61**, the flange portion **95** is abutted on the mounting stepped portion **68** of the base member **61**, and the screw **99** is fastened into the female screw portion **98**A of the reflector **90** by way of the hole **61**A in the base member **61**, whereby the assembly of the rear blinker **60** is completed.

Now, referring to FIGS. **2**, **11** and **12**, the mounted state of the rear blinkers **60** onto the side covers **38** will be described

below. The side covers **38** and the rear blinkers **60** are provided in pairs of left and right ones. In this embodiment, therefore, the rear blinker **60** and the side cover **38** on the left side will be described, while omitting the description of the rear blinker **60** and the side cover **38** on the right side.

FIG. **11** is a perspective view of the side cover **38** on the left side in the vehicle. FIG. **12** is a sectional view taken along line XII-XII of FIG. **2**, when the rear blinker **60** is viewed from the rear side of the vehicle.

FIG. **2** shows the rear blinker **60** indicated by two-dotted chain line in FIG. **11**, in section along line II-II of FIG. **11**. More specifically, FIG. **2** is a plan sectional view obtained by taking a section of the rear blinker **60** and the side cover **38** along a plane containing the optical axis C.

The side cover **38** is so formed that its width is generally reduced toward the rear side. As shown in top plan view in FIG. **2**, in the vicinity of the rear blinker **60**, the side cover **38** has a curved surface **150** the width of which is gradually reduced toward the rear side of the vehicle. In addition, as shown in FIG. **12**, in rear view, the curved surface **150** is formed to be reduced in width toward the upper side of the vehicle.

In addition, as shown in FIG. **2**, a cover maximum width portion **38**C which is an outermost portion in the vehicle width direction of the left-side side cover **38** is located on the front side relative to the rear blinker **60**. In FIG. **2**, a maximum width line L indicative of the position of the maximum width of the side cover **38** is indicated by two-dotted chain line.

The curved surface **150** is formed with a recess **160** recessed toward the inside of the vehicle, and the rear blinker **60** is disposed at the recess **160**. The recess **160** has a first recessed portion **161** to which the base part **67** is to be mounted, and a second recessed portion **162** continuous with the first recessed portion **161** and extending toward the lower side of the vehicle. In addition, the side cover **38** is provided, on the back side of the recess **160**, with a back curved surface **150**B which is so bent as to be reduced in width toward the inside of the vehicle at an angle greater than that of a face curved surface **150**A on the face side of the recess **160**.

The first recessed portion **161** is provided at its bottom portion with a plate part **161**A for receiving a bottom surface **67**D of the base part **67**. The plate part **161**A forms a surface substantially parallel to a vertical plane containing the center line S (see FIG. **2**) passing through the center of the vehicle width. The curved surface **150** becomes smaller in width as one goes backward and as one goes upward. Therefore, the first recessed portion **161** is provided with a face-side wall part **163** interconnecting the curved surface **150** and a face edge portion of the plate part **161**A, and a lower-side wall part **164** interconnecting the curved surface **150** and a lower edge portion of the plate part **161**A. In addition, the first recessed portion **161** is provided at its back portion with a bulging portion **165** interconnecting the plate part **161**A and the curved surface **150**. The bulging portion **165** is formed by bulging part of the side cover **38** toward the outside of the vehicle. Further, the plate part **161**A is provided with the wiring hole **38**B and a screw hole **166** for insertion of the set screw **38**A. The screw hole **166** is formed on the face side relative to the wiring hole **38**B.

As shown in FIG. **12**, the second recessed portion **162** has a curved surface part **162**A which is continuous with the lower-side wall part **164**, extends downward toward the outer side in the vehicle width direction, and is formed along the shape of an outer peripheral surface of the case part **61**B proximate to the second recessed portion **162**. That portion of a lower surface portion of the case part **61**B which is continuous with the base part **67** is disposed inside the second recessed portion **162**. In other words, part of the case part **61**B is disposed inside the second recessed portion **162**.

As shown in FIGS. **2** and **12**, the rear blinker **60** is mounted by fitting the base part **67** into the first recessed portion **161**, and is fixed to the recessed portion **160** by the set screw **38**A. In this condition, the set screw **38**A is engaged with the screw hole **166**, and a positioning protrusion **67**C is engaged with the wiring hole **38**B, so that the rear blinker **60** can be fixed assuredly.

The face-side wall part **163** of the first recessed portion **161** is formed to extend along the base part **67**, and a clearance G of such a size as to permit easy mounting of the base part **67** to the first recessed portion **161** is provided between the base part **67** and the face-side wall part **163**. In addition, a clearance G is provided also between the base part **67** and the lower-side wall part **164**.

The rear blinker **60** is so disposed that the optical axis C is substantially parallel to the center line **5**, and the rear blinker **60** is so mounted that the face of the lens **62** faces straight toward the rear side of the vehicle.

As shown in FIG. **2**, in plan sectional view relevant to the optical axis C, the rear blinker **60** is mounted in the state of being exposed from the recess **160** so that substantially the whole body of the lens **62** does not overlap with the curved surface **150**. More specifically, the whole of the lens **62** is located on the outer side in the vehicle width direction relative to the outline of an outside surface of the curved surface **150** in section containing the optical axis C, and is located on the rear side relative to the rear end **160**A of the recess **160**. Accordingly, on the rear side of the lens **62**, there is nothing that obstructs the lens **62** from view.

In this embodiment, even in the case where the rear blinker **60** is provided at the recess **160**, the recess **160** is not present on the rear side of the lens **62**, and the recess **160** does not obstruct the lens **62** from view, so that the visibility of the lens **62** is not lowered by the recess **160**. This ensures that, with the rear blinker **60** disposed at the recess **160**, the influence of the rear blinker **60** on the appearance of the vehicle can be reduced, and, simultaneously, the visibility of the rear blinker **60** can be secured.

Furthermore, even in the case where the left-side rear blinker **60** is viewed from the right rear side of the vehicle across the center line S passing through the center of the vehicle width, as indicated by arrow X in FIG. **2**, the lens **62** is not obstructed from view by the recess **160**; therefore, the left-side rear blinker **60** can be seen from the right rear side of the vehicle, and the visibility of the rear blinker **60** can be enhanced. In this case, the visibility of the rear blinker **60** from the right rear side of the vehicle is enhanced more as the rear curved surface **150**B is more slanted toward the side of the center line S.

In addition, as shown in FIG. **12**, also in rear view, substantially the whole body of the rear blinker **60** exclusive of the base part **67** is exposed, and the upper side and the lower side of the lens **62** are not obstructed from view by the recess **160**. Therefore, the visibility of the rear blinker **60** can be secured even in the case where the rear blinker **60** is disposed at the recess **160**.

Furthermore, as shown in FIG. **2**, the rear blinker **60** is entirely located on the inner side relative to the maximum width line L. Therefore, the rear blinker **60** can be protected against external forces and the like by the cover maximum width portion **38**C, and, notwithstanding the configuration in which the rear blinker **60** is exposed from the recess **160**, the rear blinker **60** can be protected by the side cover **38**.

As shown in FIG. **2**, the screw **99** for fixing the reflector **90** to the base member **61** is disposed at the lower surface **60**A

(see FIG. **3**), and the screw **99** is located outside of and exposed from the recess **160**. Therefore, despite the configuration in which the rear blinker **60** is disposed at the recess **160**, the screw **99** can externally be attached and detached easily, so that the maintainability of the rear blinker **60** can be enhanced.

As has been described above, according to this embodiment of the present invention, even where each rear blinker **60** is disposed at the recess **160**, substantially the whole part of the lens **62** does not overlap with the side cover **38** in plan sectional view as viewed from the upper side of the vehicle, the section containing the optical axis C of the bulb **64**, so that a situation in which the lens **62** is obstructed from view by the side cover **38** and the recess **160** can be obviated. Therefore, the visibility of the rear blinkers **60** can be secured and small-type turn signal lamps can be adopted, while enhancing the appearance of the vehicle by disposing each rear blinker **60** at the recess **160** so that the rear blinker **60** and the side cover **38** have a feeling of integrity. More particularly, since substantially the whole part of the lens **62** is exposed from the recess **160**, it is possible to secure visibility of each rear blinker **60**, for example, the visibility of the rear blinker **60** on the left side as viewed from the right rear side of the vehicle across the center line S.

In addition, since the base part **67** and part of the case part **61**B are disposed in the recess **160**, each rear blinker **60** can be disposed in a compact fashion at the side cover **38** by suppressing the amounts of protrusion of the base part **67** and the case part **61**B from the side cover **38**, and the rear blinker **60** can be protected by the recess **160** from mud, small stones and the like.

In addition, the rear blinker **60** can be protected from external forces and the like by the cover maximum width portion **38**C. In addition, even where the rear blinker **60** is exposed from the recess **160**, the rear blinker **60** can be protected by the side cover **38**.

Further, since the screw **99** is exposed from the recess **160**, the screw **99** can externally be attached and detached easily and the maintainability of the screw **99** can be enhanced, even where the rear blinker **60** is disposed at the recess **160** of the side cover **38**.

Furthermore, since the screw **99** is fastened at the lower surface **60**A of the rear blinker **60** and the screw **99** is thus provided at such a position as to be difficult to see from the outside of the vehicle, the appearance of the rear blinkers **60** can be enhanced.

In addition, since the reflector **90** and the lens **62** are united by fusing, an effective reflecting surface of the reflector **90** can be secured sufficiently, and, even where the rear blinkers **60** are disposed at the recesses **160** in the side covers **38**, a sufficient visibility of the rear blinkers **60** can be obtained. Accordingly, in the case where each rear blinker **60** is disposed at the recess **160**, the need to enlarge the reflector **90** in size and to enlarge the rear blinker **60** in size for the purpose of securing the visibility of the rear blinker **60** can be eliminated, and the rear blinker **60** can be made inconspicuous, so that appearance can be enhanced.

Further, since the first recessed portion **161** and the second recessed portion **162** are formed along the shapes of the base part **67** and the case part **61**B, the first recessed portion **161** and the second recessed portion **162** can be minimized in size, and the recess **160** is made difficult to see, so that the appearance of the vehicle can be enhanced.

In addition, since the bulging portion **165** is provided at a rear portion of the first recessed portion **161**, it is possible to set only the lens **62** away from the curved surface **150** of the side cover **38**, so that the visibility of the rear blinker **60** can be enhanced.

In addition, this embodiment is merely for showing a mode of applying the present invention, and the invention is not limited to the embodiment.

While the lens **62** has been described as having the lens-side engaging part **62**A fused to the flange portion **95** and the wall portion **96** in this embodiment, this is not limitative of the present invention, and the lens **62** may be adhered to the flange portion **95** and the wall portion **96** by use of an adhesive.

In addition, while the bulb **64** has been described as being provided with the light emitting part **64**B having a filament in this embodiment, this is not limitative of the present invention; for example, an LED (light emitting diode) may be used as a light source of the rear blinker **60**. In addition, arbitrary modifications are naturally possible as to other details of the configuration of the motorcycle **10**.

As has been described above, according to the embodiment of the present invention, the reflector engaging parts **94** formed to be integral with the reflector **90** are mounted directly to the socket engaging parts **81** of the socket **70**. Therefore, a fixing member for exclusive use to fix the socket **70** to the reflector **90** is not necessary, whereby the number of component parts can be reduced, and assembleability and maintainability can be enhanced.

Further, the outer peripheral wall **92**A of the outside surface **91**B of the reflector **90** is provided with the reflector engaging parts **94**. Therefore, the reflector engaging parts **94** do not obstruct reflection on the reflecting surface **91**A, the reflection area of the reflector **90** can be prevented from being lowered, and a light emission area can be secured without enlarging the reflector **90** in size. Accordingly, a sufficient light emission area and a sufficient irradiation area of the reflector **90** can be secured while making the rear blinkers **60** smaller in size.

In addition, the bulb **64** and the socket **70** can be fixed to the reflector **90** by only fitting the socket engaging parts **81** of the socket **70**, with the bulb **64** mounted thereon, to the reflector engaging parts **94** and turning the socket **70** in this condition. Consequently, assembleability and maintainability can be enhanced.

In addition, the outer peripheral wall **92**A of the reflector tubular part **92** is provided with the reflector engaging parts **94**, and the reflector engaging parts **94** are engaged with the socket engaging parts **81** provided at the inner peripheral wall **72**A of the second tubular part **72**. This makes it possible to minimize the diameter of the through-hole **93** in the reflector tubular part **92**, to prevent the reflection area of the reflecting surface **91**A of the reflector **90** from being reduced, and to secure a light emission area. In addition, since the socket engaging parts **81** are provided on the outer peripheral side of the first tubular part **71** and at the inner peripheral wall **72**A of the second tubular part **72**, the socket **70** can be reduced in size while securing the size of the first tubular part **71** for supporting the bulb **64**.

In addition, the first tubular part **71** and the second tubular part **72** are integrally and coaxially provided on the inner and outer sides, respectively. Therefore, the holding of the bulb **64** by the through-hole **73** in the first tubular part **71** and the engagement of the socket engaging parts **81** of the second tubular part **72** with the reflector engaging parts **94** are also performed coaxially, so that the bulb **64** can be held with good positional accuracy relative to the reflector **90**.

Further, since the terminal portions **51**B and **52**B are disposed at the stepped portions **78** formed at the back end

portion of the socket **70**, the socket **70** can be reduced in size in the face-back direction, and the rear blinker **60** can be reduced in size.

Furthermore, since the reflector engaging parts **94** can be held in the protrusion accommodating portions **84** by the resilience of the seal member **79**, the socket **70** and the reflector **90** can be firmly fixed. In addition, since the socket **70** and the reflector **90** can be engaged with each other by holding the reflector engaging parts **94** in the protrusion accommodating portions **84** through utilizing the seal member **79** provided between the reflector tubular part **92** and the socket **70**, the number of component parts can be reduced.

In addition, since the lens **62** and the reflector **90** are adhered and fixed to each other by fusing, without using any fixture such as screw, a situation in which a fixture interferes with the reflecting surface **91**A of the reflector **90** to reduce the light emission area can be obviated, and a light emission area of the reflector **90** can be secured.

Further, since a sufficient light emission area of the rear blinkers **60** can be secured and the rear blinkers **60** can be made smaller in size, the rear blinkers **60** can be prevented from adversely influencing the appearance of the motorcycle **10**, while obtaining a sufficient light emission amount and securing the visibility of the rear blinkers **60**.

In addition, since the rear blinkers **60**, made smaller in size while securing a sufficient light emission amount by securing a light emission area and an irradiation area of the reflectors **90**, are provided at the recesses **160** in the side covers **38** so that the rear blinkers **60** are inconspicuous, the rear blinkers **60** can be prevented from adversely affecting the appearance of the vehicle, while securing the visibility of the rear blinkers **60**. Furthermore, despite the configuration in which the rear blinkers **60** are provided at the recesses **160**, the lenses **62** are not obstructed from view by the recesses **160** or the side covers **38**, so that the visibility of the rear blinkers **60** can be secured.

In addition, the above-described embodiment is merely for showing a mode for carrying out the present invention, and the invention is not limited to the above embodiment.

While the lens **62** has been described as having the lens-side engaging part **62**A fused to the flange portion **95** and the wall portion **96** in the embodiment above, this is not limitative of the present invention. For example, the lens **62** may be adhered to the flange portion **95** and the wall portion **96** by use of an adhesive.

In addition, while the rear blinker **60** of the motorcycle **10** has been described as the lamp for a vehicle in the embodiment above, this is not limitative of the present invention. The configuration of the rear blinker **60** may be applied to the front blinker **55**. Further, the configuration of the lamp for a vehicle according to the present embodiment is applicable not only to the motorcycles but also to lamps for vehicles having three wheels, four wheels or more wheels. Furthermore, the configuration of the lamp for a vehicle according to the present embodiment is applicable not only to the rear blinker **60** but also to other lamps such as headlight, fog lamp, etc.

The invention being thus described, it will be obvious that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.

What is claimed is:

1. A motorcycle comprising:

a seat;

a body cover covering the periphery of the lower side of the seat and formed in a curved shape such as to gradually decrease in width toward the rear side of the motorcycle; and

turn signal lamps mounted at left and right portions in the motorcycle width direction of the body cover, each of the turn signal lamps including a base member mounted to the body cover, a light source, and a lens covering the light source;

the left and right turn signal lamps being disposed at recesses provided in the body cover;

wherein each of the left and right turn signal lamps is mounted to the body cover in such a manner that the lens is substantially entirely exposed from the recess so as not to overlap with a curved surface of the body cover in plan sectional view as viewed from the upper side of the motorcycle, the section containing an axis of the light source.

2. The motorcycle according to claim **1**, wherein the base member comprises a base part for mounting to the body cover, and a case part for accommodating the light source and a reflector, and the base part and part of the case part are disposed inside the recess.

3. The motorcycle according to claim **1**, wherein the whole part of the turn signal lamp is disposed at a position on the inner side relative to a maximum width in the motorcycle width direction of the body cover.

4. The motorcycle according to claim **2**, wherein the whole part of the turn signal lamp is disposed at a position on the inner side relative to a maximum width in the motorcycle width direction of the body cover.

5. The motorcycle according to claim **2**, wherein a fastening member for fixing the reflector or the lens to the case part is provided, and the fastening member is exposed from the recess.

6. The motorcycle according to claim **3**, wherein a fastening member for fixing the reflector or the lens to the case part is provided, and the fastening member is exposed from the recess.

7. The motorcycle according to claim **5**, wherein the fastening member is fastened at a lower surface of the turn signal lamp.

8. The motorcycle according to claim **5**, wherein the reflector and the lens are coupled into integrity by adhesion or fusing, and

the case part and the reflector are fastened by the fastening member.

9. The motorcycle according to claim **7**, wherein the reflector and the lens are coupled into integrity by adhesion or fusing, and

the case part and the reflector are fastened by the fastening member.

10. The motorcycle according to claim **2**, wherein the recess includes a first recessed portion for accommodating the base part, and a second recessed portion for accommodating part of the case part, and the first recessed portion and the second recessed portion are found along the shapes of the base part and the case part.

11. The motorcycle according to claim **10**, wherein the first recessed portion is provided at its rear portion with a bulging portion where part of the body cover bulges toward the outside of the motorcycle.

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